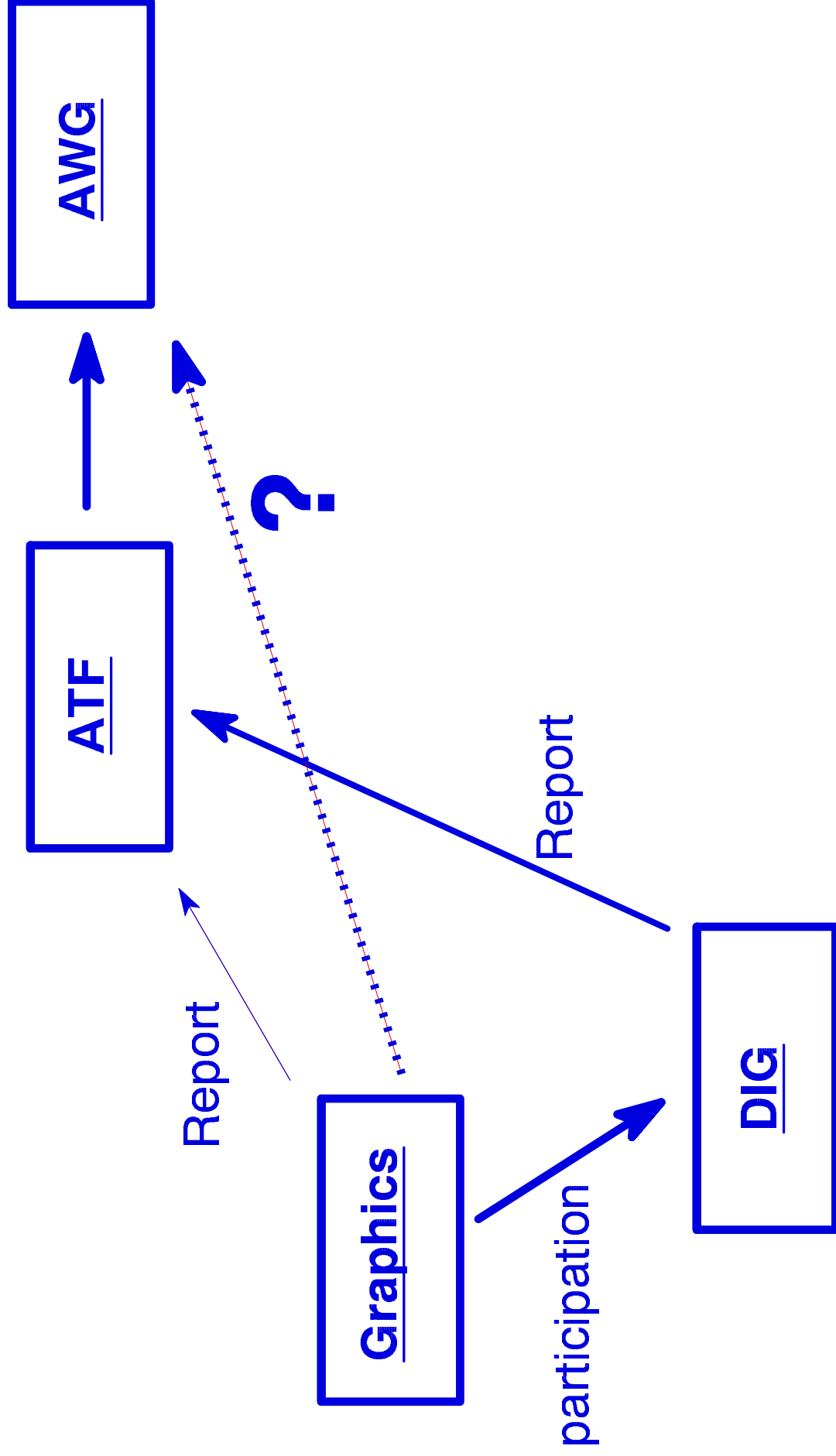


# GRAPHICS - ATF



# ATF REPORT

## 1 Introduction

### 1.3 General Comments

#### 1.3.5 The Complete ATLAS Software System

**Figure 1-1** Different sets of libraries comprising the ATLAS Software System.

The complete ATLAS software will consist of a set of libraries:

1. Basic C++ utility libraries, such as STL, CLHEP, histogramming and persistent libraries, etc.
2. The ATLAS Common Framework, which defines such things as access to event data and the detector description.  
**This is the focus of the work of the ATF.**
3. Libraries for well defined applications such as Event Filter, reconstruction, simulation, analysis and visualisation (includes event displays, histogramming etc.).

*Visualisation doesn't belong to Common Framework*

# ATF REPORT

## 3 Introduction to the Architectural Design Work

### 3.2 General Design Choices

#### Language

At the time of writing, Java looks like the only serious long-term alternative to C++. We suggest the the Quality Control Group provide recommendation for how to use C++ in order to be prepared for a potential future migration.

*Very passive approach*

# ATF REPORT

## 4 Use-case based Architecture Design

### 4.2 Use-cases

#### 4.2.2 Use-case Matrix

Table 4-1 Matrix of which Actors use which Use-cases..

*Visualisation is present*

# ATF REPORT

## 5 Components Expected in the ATLAS Common Framework

**Table 5-1** The main components which we would expect to be important for ATLAS.

Visualisation is missing

# ATF REPORT

## 6 Detailed Discussion of Some Components

### 6.7 Visualisation

#### 6.7.1 Design Choices

The following design choices have come from those working in the Visualisation Domain:

1. *All data objects are independent of whether or not they can be visualised.*

This means, for example, that visualisation attributes (e.g. colour) are defined within the Visualisation Domain, and are not attributes of the data objects itself.

2. *Applications communicate with the visualisation through an abstract interface.*

Adding another visualisation toolkit does not require any changes on the application side.

We note that these choices ensure that the Visualisation is largely decoupled from the aspects of the Architecture considered here, and therefore we are confident that the Visualisation will fit smoothly into the Architecture. Hence, Visualisation is not discussed further in this report.

# ATF REPORT

## 11 Appendix A - Glossary

### Visualisation

This includes event displays as well as the plotting of statistical data.

# ATF REPORT

## **14 Appendix D - Associated Proposals**

### **14.1 Libraries**

#### **14.1.1 Proposals**

##### **Visualisation**

This is primarily for the Visualisation Domain to make a suggestion; they seem to prefer QT.



# ATF REPORT

ATF Reports covers mainly Domains (and Designs), which have been represented (Control, Event, Detector Description,...).

Graphics has not been represented, so it is covered in much less details.

Where Graphics is covered, it corresponds to the current Architecture developed in the Graphics Group.

Detailed Designs often don't take Visualisation Design Choices into Account.

# ATF REPORT

Visualisation Design Choices ensure the independence of the Visualisation on the choice of the Visualisation Tools and the independence of the Data Objects on the Visualisation.

The Visualisation, however, visualises the Data Objects in the Common Framework and so the Visualisation Architecture is part of the Common Architecture.

Hopefully, the interaction between Visualisation and the rest of the Atlas Software will be worked on by the AUG.

# RELATIONS TO ATLAS SW

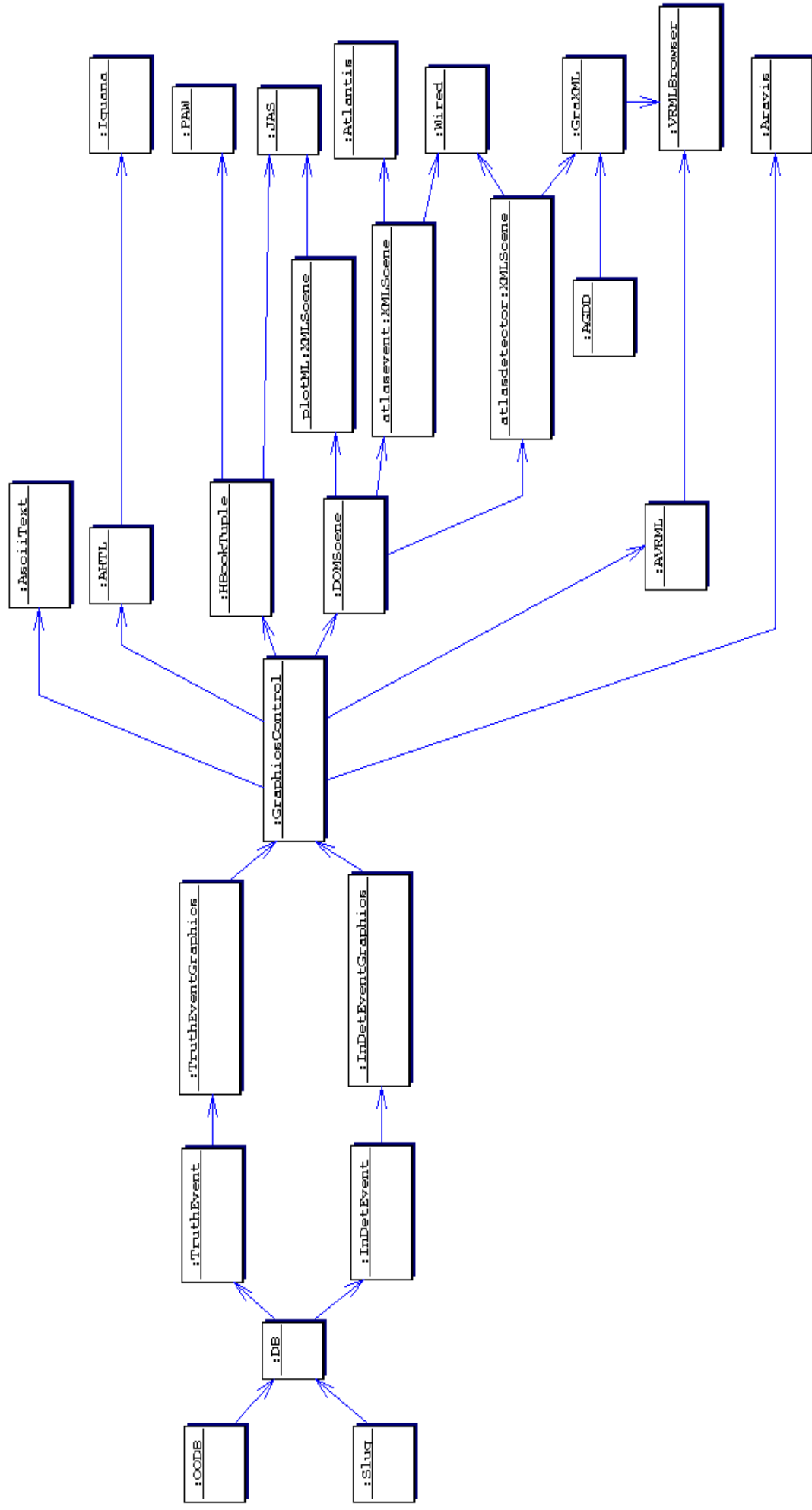
- Graphics Domain officially doesn't exist. It has serious impact on the Definition and the Implementation of the Interfaces between Graphics and other Domains (SubSystems).
- Contacts in SubSystems:
  - ID: M.Tadel
  - Nu: A.Farilla (unofficial)
  - LAr: ?
  - Tile: ?
  - Trigger: ?

# NEW DESIGN

Action Plan agreed on meeting yesterday:

- WalkThrough the code:
  - translate AVRML
  - look at MultiMethods + Dynamic Loading
  - look at Bus + associated concepts
- Consolidate use of MultiMethods with Event
- Update Requirements Table
- Update Documentation

# SUBDOMAINS



Graphics SubDomains  
J.Hrvnac, Nov99

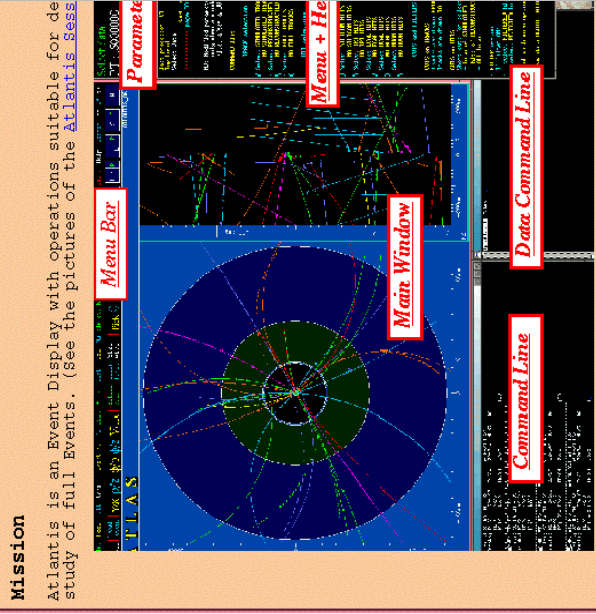
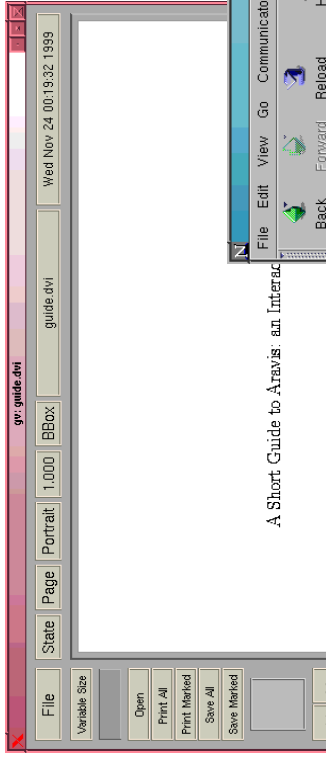
# SCENES

- Atlantis: ID data available see elsewhere
- Aravis: will migrate Motif/LessTif → Qt
- Wired see later
- AVRML: will move to VRML2.0
- GraXML: prototype see later
- PersInt: reads AGDD XML files
- AsciiText see later
- XMLScene: will be extended with other DTDs
- HBookTuple: will with Slug will be solved
- AHTL: will be dressed with Iguana

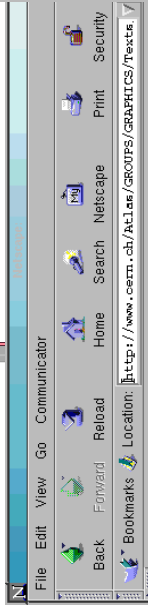
# PLOTTABLES

- Simulation:
  - TruthTrack
- ID:
  - SiDetector, TRTDetector
  - SiDigit, TRTDigit
  - StripCluster
  - SpacePoint see elsewhere
- Mu:
  - --- will be migrated from Amber ---

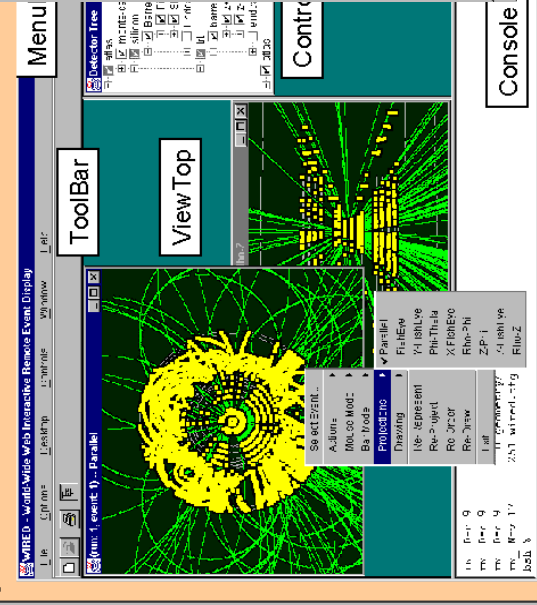
# DOCUMENTATION



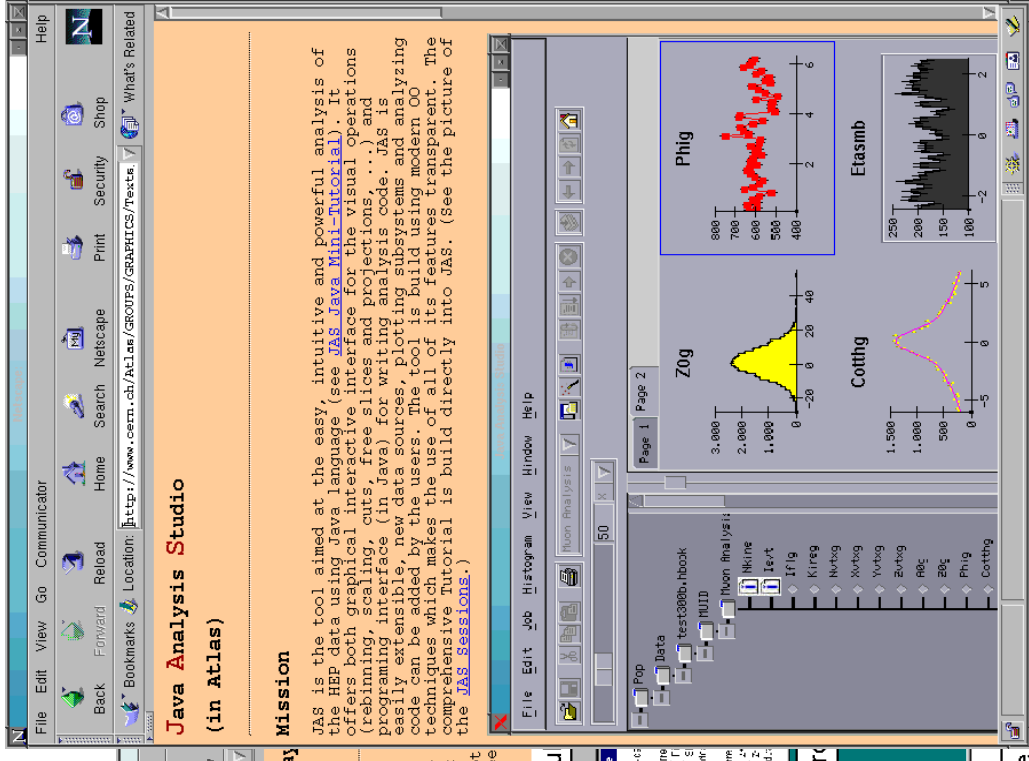
**How To**  
**Start Atlantis**  
Atlantis for Linux is build as part of the Atlas SRT release. So if you have the AFS, you can just call



**Mission**  
Wired is a framework for building HEP Event Displays which interactively across the Internet using World-Wide Web. An Display written using the Wired framework enables users of collaboration to explore, scan and research events in remote using ordinary WWW browsers. Wired is written in Java. (See the pictures of the [Wired Sessions](#).)



**How To**  
**Start Atlantis**  
Atlantis for Linux is build as part of the Atlas SRT release. So if you have the AFS, you can just call



*Graphics SubDomains*  
*J.Hrivnac, Nov99*



# XMLSCENE

- Event (atlasevent.dtd):
  - created by XMLScene
  - readable by Wired, Atlantis
- Detector Description (AGDD.dtd):
  - created by Hand
  - readable by GraXML, PersInt, G4Builder
- Histogram (PlotML.dtd):
  - created by XMLScene (soon)
  - readable by JAS

XMLScene will be migrated to DOMScene, which will be able to create and manipulate all those XML files.

XSL will be used to create other kinds of representations.