



# FABRIC project plan

# 2 major components

The FABRIC logo consists of the word "fabric" in a lowercase, sans-serif font, set against a background of a colorful, multi-colored grid pattern. The logo is contained within a rectangular frame with a slight drop shadow.

## Part 1: Scalable connectivity

- 1.1. Data Acquisition
  - 1.1.1. Data acquisition architecture (MRO)
    - Scalable data acquisition system, off-the-shelf components  
new version of PC-EVN?
  - 1.1.2. Data acquisition prototype (MRO)
    - Prototype for 4Gb/s?
  - 1.1.3. Data acquisition control (MPI)
    - Control data acquisition, interface for protocol, distributed computing
- 1.2. Broadband Datapath
  - 1.2.1. Broadband protocols (JBO)
    - IP protocols, lambda switching, multicasting
  - 1.2.2. Broadband data processor interface (JBO)
    - Data from public network to eMERLIN correlator
  - 1.2.3. Integrate and test (OSO)
    - 10 Gb/s test environment for OSO-eMERLIN (and LOFAR?)
  - 1.2.4. Public to dedicated interface (ASTRON)
    - LOFAR transport over public network, LO & timing

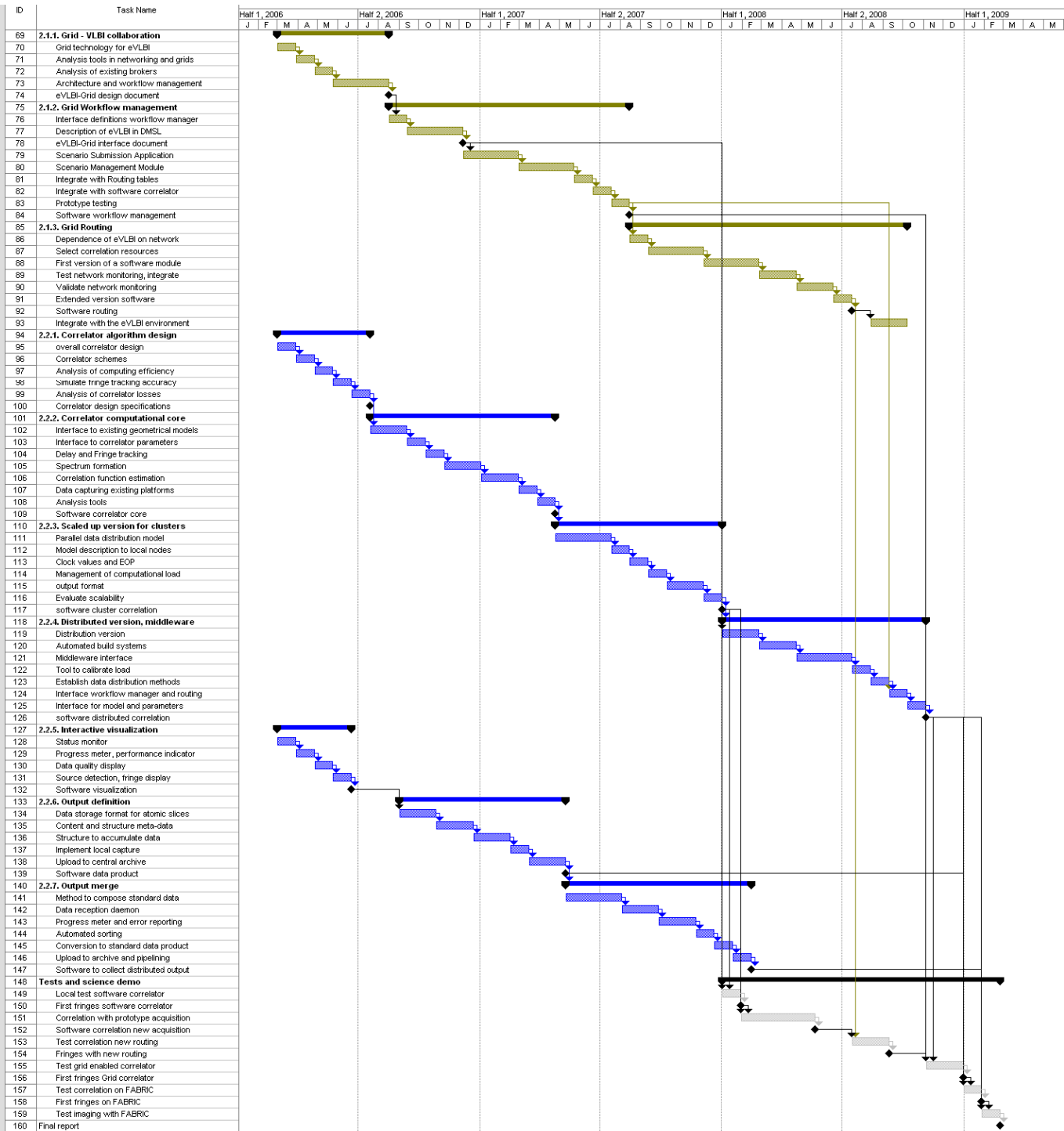
# Components (part 2)



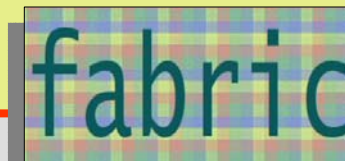
## Part 2: Distributed correlation

- 2.1. Grid resource allocation
  - 2.1.1. Grid VLBI collaboration (PNSC)
    - Establish relevant tools for eVLBI
  - 2.1.2. Grid workflow management (PNSC)
    - Tool to allocate correlator resources and schedule correlation
  - 2.1.3. Grid routing (PNSC)
    - Data flow from telescopes to appropriate correlator resources
- 2.2. Software correlation
  - 2.2.1. correlator algorithm design
    - High precision correlation on standard computing
  - 2.2.2. Correlator computational core
  - 2.2.3. Scaled up version for clusters
  - 2.2.4. Distributed version, middleware
    - Deploy on Grid computing
  - 2.2.5. Interactive visualization
  - 2.2.6. Output definition
    - Output data from individual correlators
  - 2.2.7. Output merge
    - Collect data in EVN archive



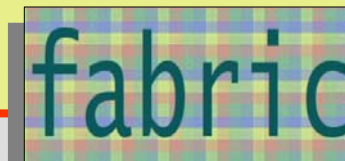


# Deliverables first 18 months



number	name	month	type	responsible
DJ1.1	Data acquisition requirements document	2	report	MRO
DJ1.2	Protocols strategic document	2	report	JBO
DJ1.3	Visualization software	4	software	JIVE
DJ1.4	Correlator design specification	5	report	JIVE
DJ1.5	Overall design document	6	report	JIVE
DJ1.6	eVLBI-Grid design document	6	report	PNSC
DJ1.7	eVLBI fringes PC-EVN	7	demo	OSO
DJ1.8	LOFAR connection strategic document	7	report	ASTRON
DJ1.9	Data acquisition design document	8	report	MRO
DJ1.10	eVLBI-Grid interface document	10	report	PNSC
DJ1.11	Protocols performance report	13	report	JBO
DJ1.12	Software correlator core	14	software	JIVE
DJ1.13	Software data product	15	software	JIVE
DJ1.14	Data acquisition interface document	18	report	MPI
DJ1.15	LOFAR station interface report	18	report	ASTRON
DJ1.16	Software for workflow management	18	software	PNSC

# Rest of deliverables



number	name	month	type	responsible
DJ1.17	Software for correlation on cluster	23	software	JIVE
DJ1.18	Data acquisition test report	23	report	MPI
DJ1.19	Data acquisition prototype at telescope	23	prototype	MRO/OSO
DJ1.20	Overall broadband demonstration	32	demo	OSO
DJ1.21	Software cluster correlation	23	software	JIVE
DJ1.22	First fringes software correlator	23	demo	JIVE
DJ1.23	Software to collect distributed output	24	software	JIVE
DJ1.24	Software to create data product	27	software	JIVE
DJ1.25	Software routing	29	software	PNSC
DJ1.26	eMERLIN interface available	30	prototype	JBO
DJ1.27	Fringes with new routing	31	demo	JIVE
DJ1.28	Software distributed correlation	33	software	JIVE
DJ1.29	First fringes Grid correlator	34	demo	JIVE
DJ1.30	First fringes on FABRIC	35	demo	JIVE
DJ1.31	Final report	36	report	JIVE

DJ1.20 seems to have wrong month in contract



The background of the slide is a dense, repeating grid of small squares in various colors including blue, green, yellow, red, and purple. The text is centered on this pattern.

# Institute Presentations



# Management info from JIVE

fabric

- Position software engineer already filled
  - Ruud Oerlemans comes with experience in correlator software
  - Has been on Huygens project, high resolution correlation
- Postdoc position advertised
  - But may be hard to fill
- Good progress towards correlator core already
  - Need some rework to be portable
  - And to derive “normal” output data



## **Postdoctoral Research Assistant**

**THE JOINT INSTITUTE FOR VLBI IN EUROPE (JIVE)**

**is seeking candidates for a fixed-term appointment as a**

**POSTDOCTORAL RESEARCH FELLOW in Astronomical Computing**

**to be located at JIVE, Dwingeloo, The Netherlands.**

The Joint Institute for VLBI in Europe (JIVE) operates an advanced 16-station MkIV-standard VLBI data processor (correlator) to support VLBI astronomical observations made with the European VLBI Network (EVN). The EVN is often used in conjunction with the MERLIN interferometer in the UK and the Very Long Baseline Array in the US. JIVE is located in Dwingeloo, in the Netherlands, at the headquarters of ASTRON, which is the host institute for JIVE. Further information regarding JIVE and the EVN can be obtained from [www.jive.nl](http://www.jive.nl) and [www.evlbi.org](http://www.evlbi.org).