EVLA Correlator Project Management Review
Amy Fink

EVLA Correlator Project Management

- Original Schedule and Budget
- Interthink Consulting Proposals
- Work done in the Last Year
- Set-Backs/Slow-Downs in Last Year
- Project Management Status Now
- Project Management in the Future

Original Schedule & Budget

- Project Schedule as of 28Dec2001 (developed by B. Carlson)
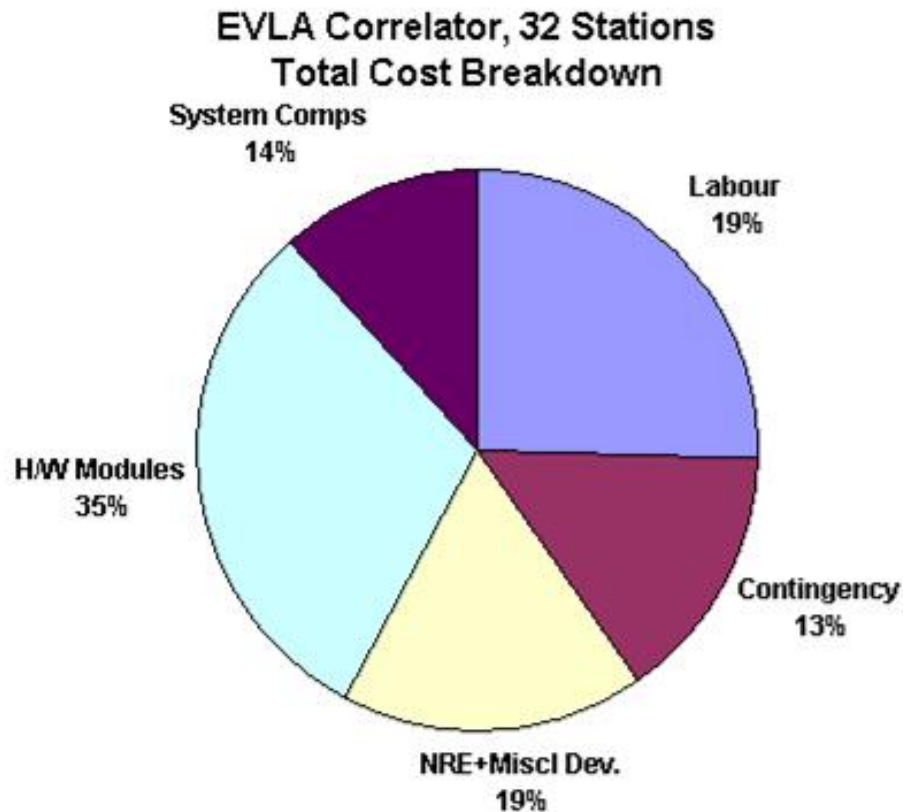- Project Budget as of 18Jan2002 (developed by B. Carlson)

Project Schedule as of 28Dec2001 – WBS Outline
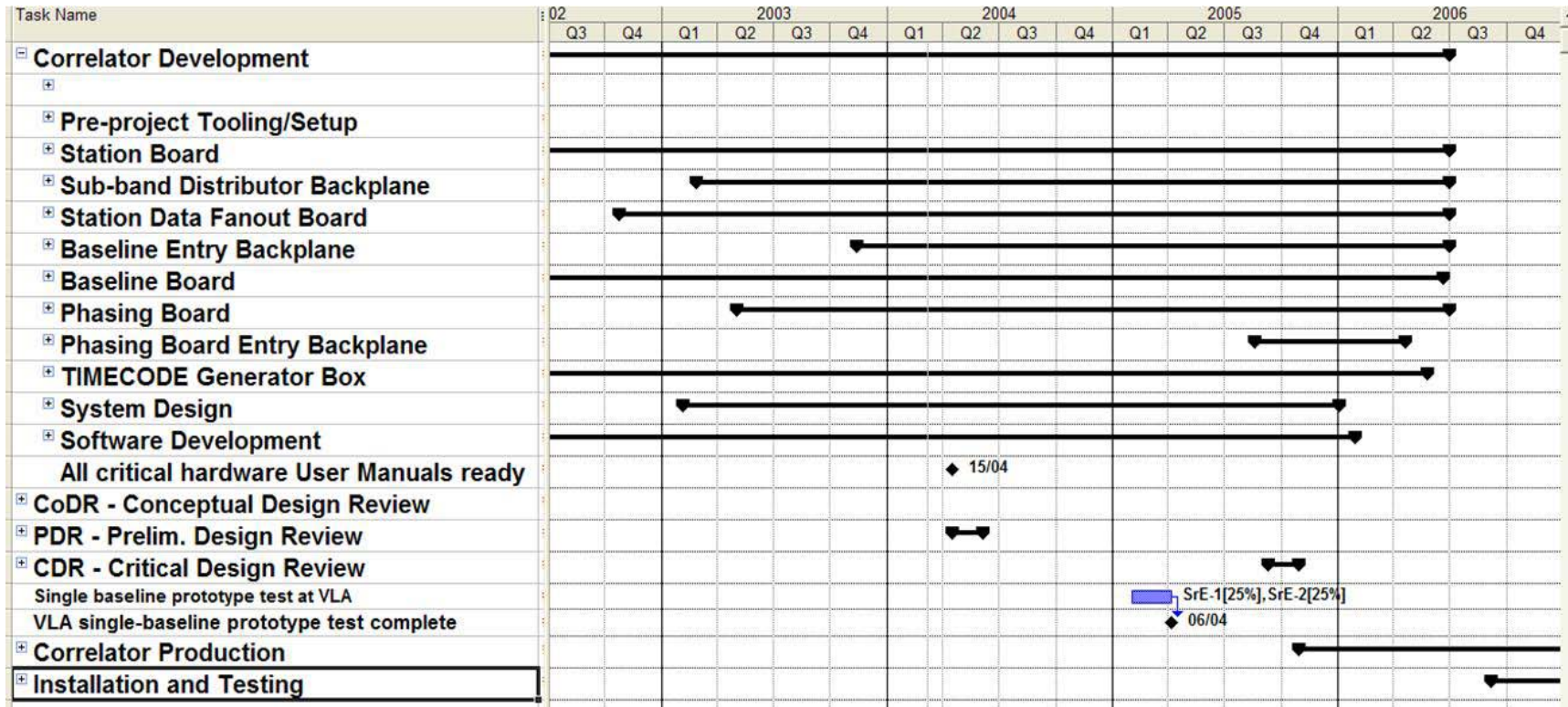
# Project Schedule as of 28Dec2001 – Milestone Dates

- Critical Hardware Manuals: Apr2004

- PDR: May2004

- FIR Filter Prototype: Jan2005 – Jun2005

- Correlator Chip Prototype: Jan2005 – Jun2005

- VLA Single Baseline Prototype Test: Apr2005

- CDR: Oct2005

- FIR Filter Production: Oct2005 – Feb2006

- Correlator Chip Production: Oct 2005 – Feb2006

- System Integration & Test (Penticton): Jul2006 – Feb2007

- System Installation & Test (VLA): Feb2007 – Apr2008

- Commissioning: Apr2008

Project Budget as of 18Jan2002 – Cost Breakdown

EVLA Correlator, 32 Stations
Total Cost Breakdown

System Comps 14%
Labour 19%
Contingency 13%
NRE+Miscl Dev. 19%
H/W Modules 35%

Project Budget as of 18Jan2002 – By Fiscal Year (2001 USD)

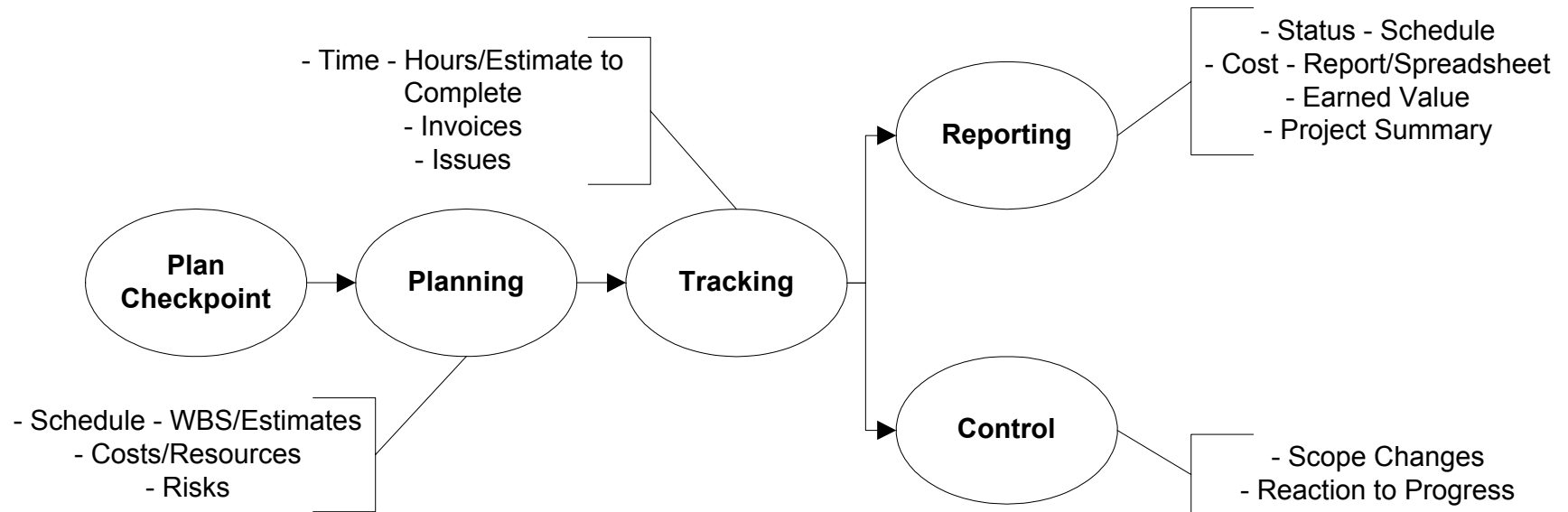**EVLA Correlator Fiscal Year Budget**
($US 2001)
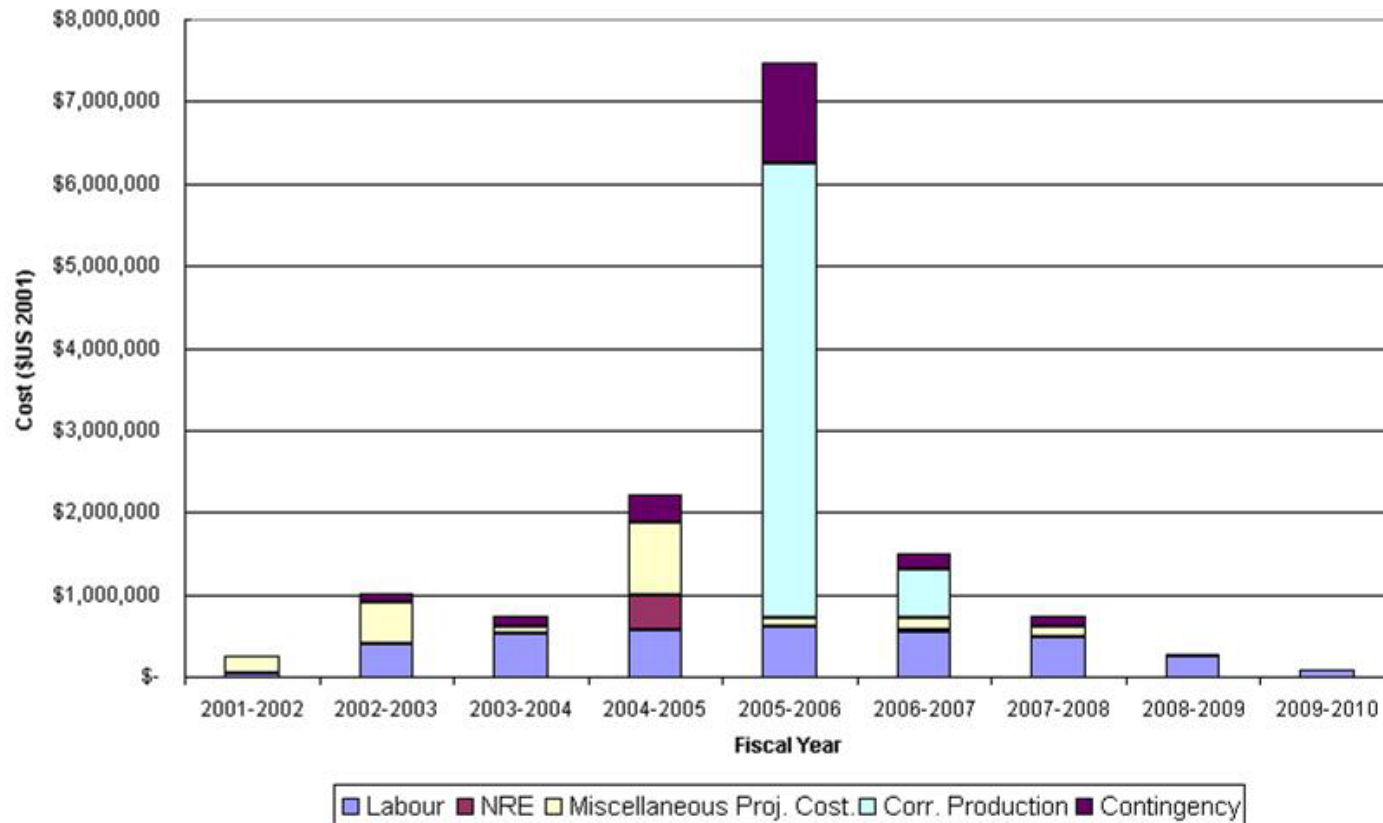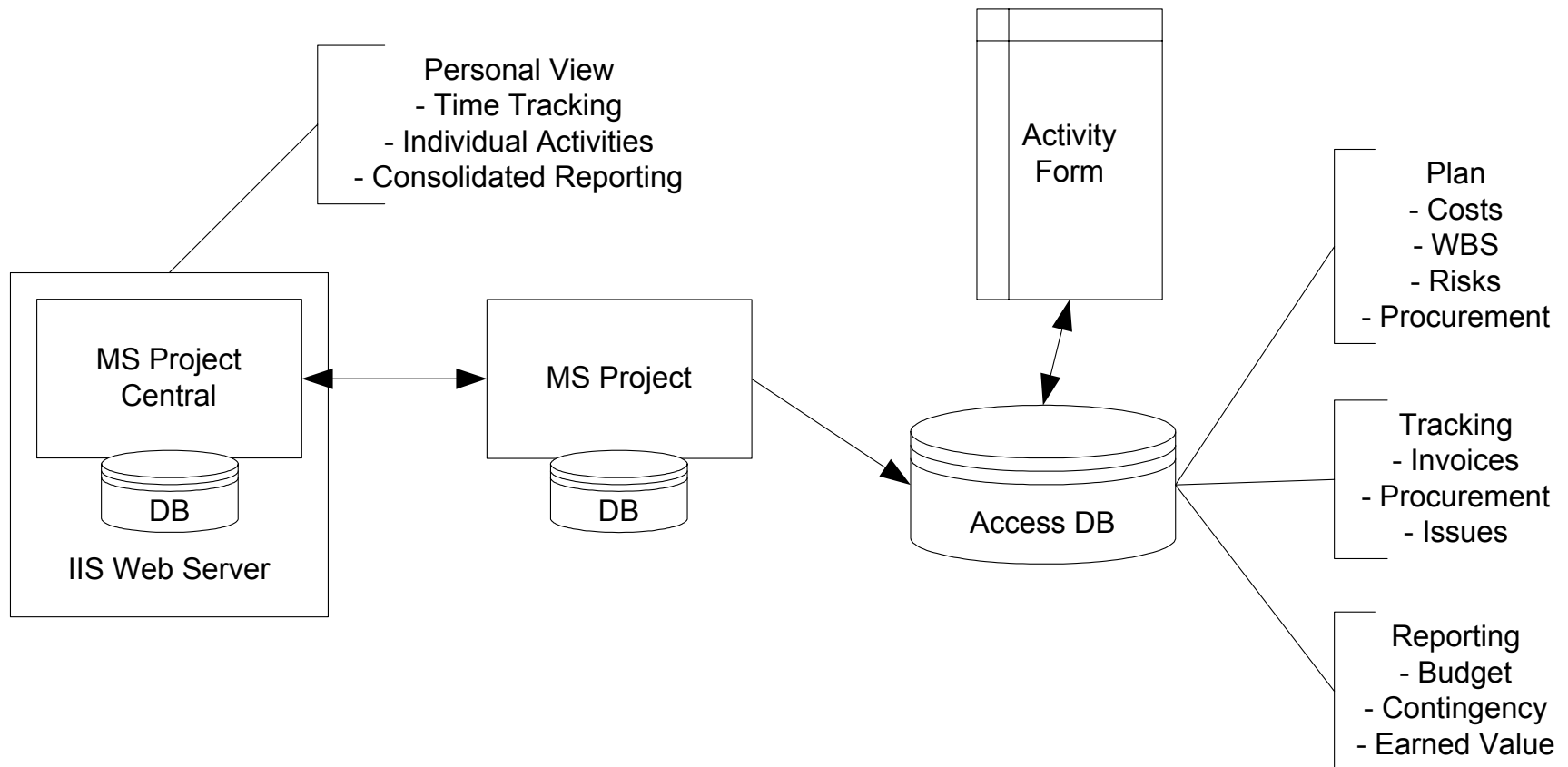
Interthink Consulting Proposals

- Restructure the WBS

- Time Based Schedule

- Revamp Resource & Time Estimates

- MS Access Budget Tracking Database

Interthink Consulting Proposals

- Time - Hours/Estimate to
Complete
- Invoices
- Issues

- Status - Schedule
- Cost - Report/Spreadsheet
- Earned Value
- Project Summary

**Plan
Checkpoint** → **Planning** → **Tracking**

Reporting

Control

- Schedule - WBS/Estimates
- Costs/Resources
- Risks

- Scope Changes
- Reaction to Progress

Interthink Consulting Proposals

Personal View
- Time Tracking
- Individual Activities
- Consolidated Reporting

Activity
Form

Plan
- Costs
- WBS
- Risks
- Procurement

MS Project
Central

DB

IIS Web Server

MS Project

DB

Access DB

Tracking
- Invoices
- Procurement
- Issues

Reporting
- Budget
- Contingency
- Earned Value

Work Done in the Last Year

- Project Management Meetings
- Created Activity Form
- WBS Dictionary Created
- MS Access Database Created
- DRAO-EVLA Web Site Remodeled
- Project Reporting Scheme Developing

Work Done in the Last Year

- Project Management Meetings
  - WBS Re-organized & Re-formatted
  - Schedule Revamped
  - Cycles of Work Created

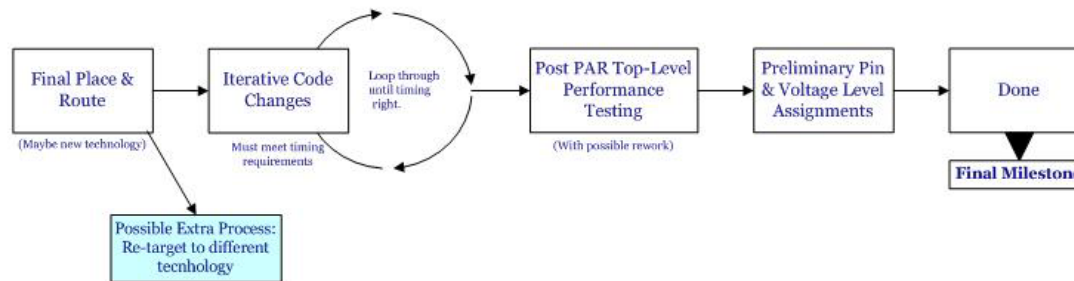# Work Done in the Last Year –
WBS Re-organized & Re-formatted
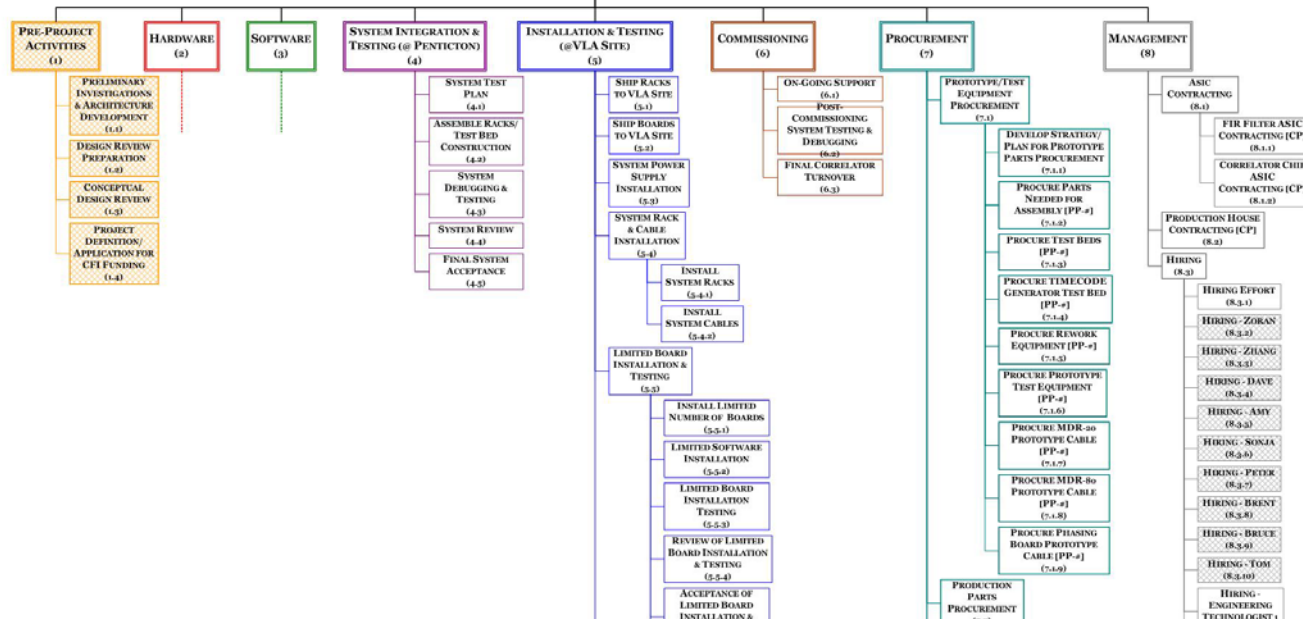
Work Done in the Last Year – Schedule Revamped
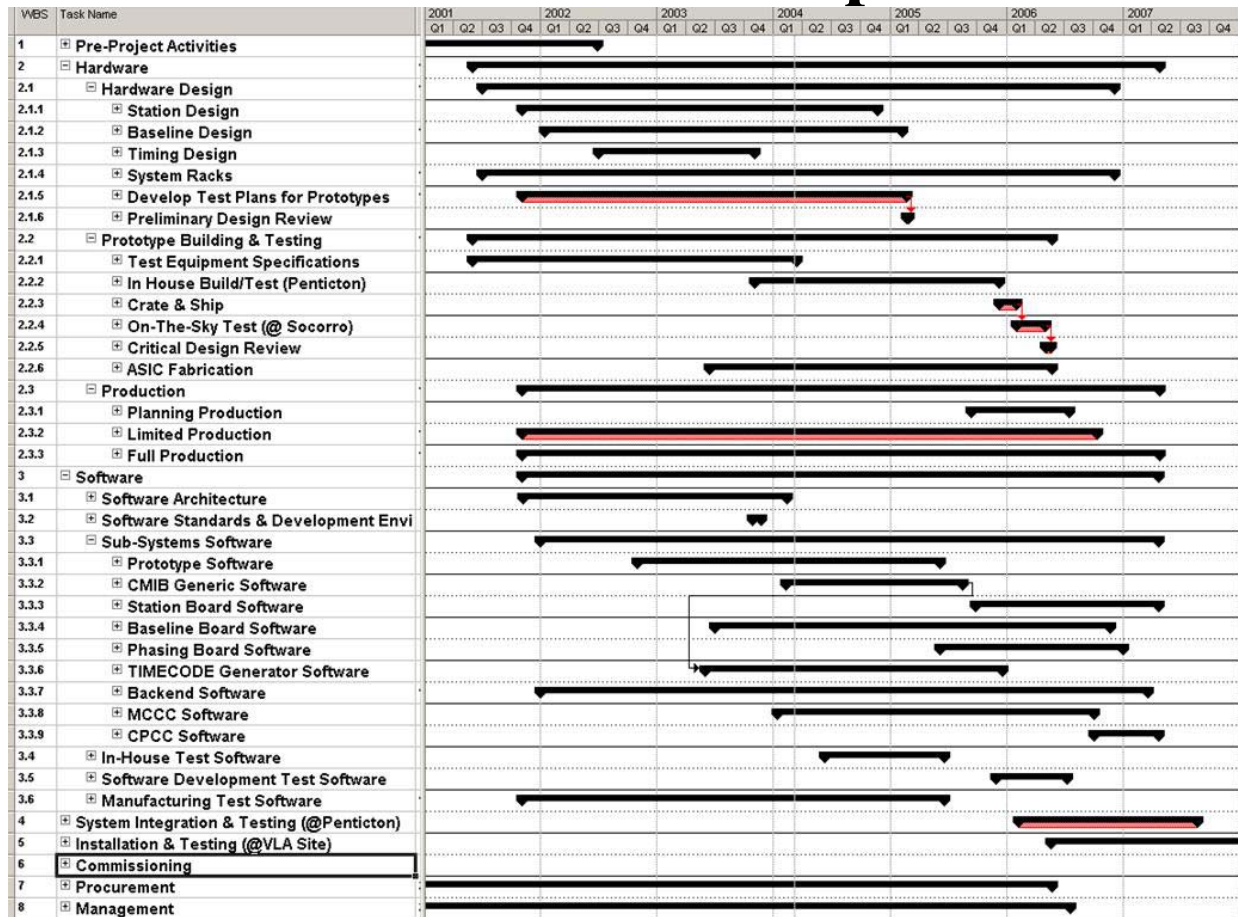
Work Done in the Last Year –
Cycles of Work Created

NRC · CNRC

FPGA PROCESS (4) - CYCLE OF WORK

FDP-4: Final Place & Route

Work Done in the Last Year

- Created Activity Form
  - Time Estimates Gathered
  - Resource Allocations Identified
  - Task Definitions Gathered
  - Project Risks Identified (Not Complete)

Work Done in the Last Year – Created Activity Form

NRC·CNRC

EVLA Project

Work Breakdown Structure Dictionary

ID:		WBS Code:	
Name:		New (Useful) Name:	

Description:

Assumptions:

Deliverables:

Risk Identification:

Linkages:

Staff Resource Identification	Estimate to Complete (in Hours)		
	Best Case	Worst Case	Most Likely

Work Done in the Last Year – WBS Dictionary Created

EVLA Project WBS Dictionary

WBS Code: 1   **Name:** Pre-Project Activities
Description: Higher-Level Task: Placeholder for lower level activities.

WBS Code: 1.1   **Name:** Preliminary Investigations & Architecture Development

WBS Code: 1.2   **Name:** Design Review Preparation

WBS Code: 1.3   **Name:** Conceptual Design Review

WBS Code: 1.4   **Name:** Project Definition/Application For CFI Funding

WBS Code: 2   **Name:** Hardware
Description: Higher-Level Task: Placeholder for lower level activities.

WBS Code: 2.1   **Name:** Hardware Design
Description: Higher-Level Task: Placeholder for lower level activities.

WBS Code: 2.1.1   **Name:** Station Design
Description: Higher-Level Task: Placeholder for lower level activities.

WBS Code: 2.1.1.1   **Name:** Station Board
Description: Higher-Level Task: Placeholder for lower level activities.

WBS Code: 2.1.1.1.1   **Name:** Station Board Architecture Review

WBS Code: 2.1.1.1.2   **Name:** Delay Module Preliminary Design

WBS Code: 2.1.1.1.3   **Name:** Station Board Fibre Optic Receiver Module ICD & User Manual (from NRAO)

Description:
- Get symbol, footprint, documents for this NRAO designed mezzanine card.

Assumptions:
- Card works like we think it does – very little documentation at this time.

Deliverables:
- Mechanical and electrical specifications.
- Interface Control Document/User Manual (from NRAO)

Risks:
- *Risk:* Signal integrity across the connectors (5% probability of occurrence).
  Impact: Will require redesign of interface.
- *Risk:* Late delivery of documents (5% probability of occurrence).
  Impact: Delays Station Board PCB Design.

Linkage:
- NRAO must complete design and ICD/User Manual required before Station Board PCB design and layout can proceed.

Resource:
- Dave F. (60h)

Work Done in the Last Year –
MS Access Database Created
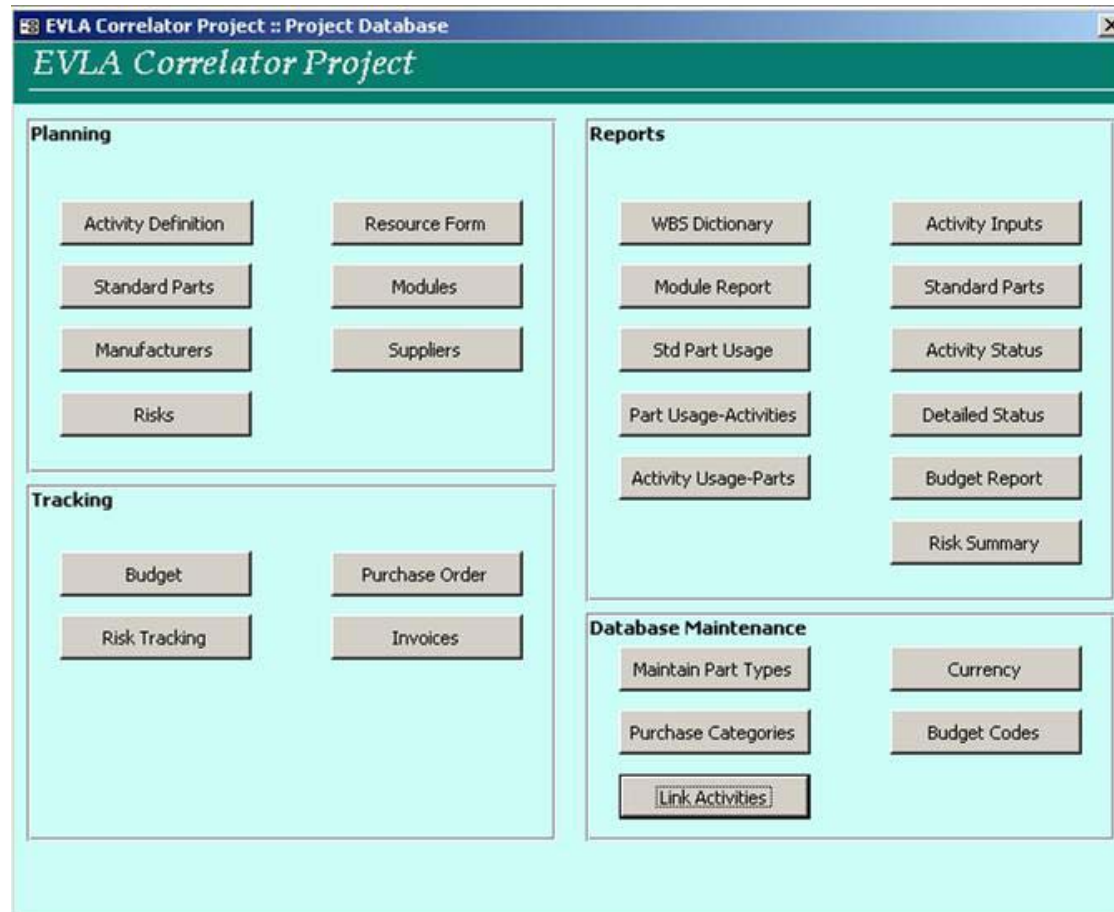
Work Done in the Last Year – DRAO-EVLA Web Site Remodeled

Work Done in the Last Year –
Project Reporting Scheme Developing

- Reporting Checklist/Plan Created

- Sample Reports Created

- Request Forms Created

Work Done in the Last Year –
Project Reporting Scheme Developing

EVLA Reporting Checklist

Date Produced:	09Feb2004
Quarter to Report:	Q1 2004

Weekly Reports:

Report Name	Week #1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Staff Status Report – B. Carlson	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – A. Fink	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – D. Fort	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – Z. Heng	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – Z. Ljusic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – T. Morgan	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – B. Rowen	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Staff Status Report – S. Vrcic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Consultant Status Report – Aardvark	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Consultant Status Report – HDD	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Consultant Status Report – Interthink	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Monthly Reports:

Report Name	Month #1	#2	#3
Operating Budget Report	☐	☐	☐
Procurement Report	☐	☐	☐
Web Update Report	☐	☐	☐
CAD/USD Conversion Rate Graph	☐	☐	☐

Quarterly Reports:

Report Name	Date	Complete
Quarterly Status Report		☐
Task Percent Complete Report		☐
Project WBS Dictionary		☐
Project Management Report		☐
Spending/Projected Spending Report		☐
WBS Map Updates		☐

Notes:
- The list of reports and required actions on this checklist may not yet be complete.

Work Done in the Last Year – Project Reporting Scheme Developing

EVLA Project Management Report

Report Date: 09Feb2004
Reporting Period: January 2004

Schedule Updates:

Changes:
- No changes were made to the schedule in the last reporting period

Comments:
- Problem still exists where software is delaying the overall project schedule by many months

WBS Updates:

New Tasks:
- No new tasks were created in the last reporting period.

Deleted Tasks:
- No tasks deleted in the last reporting period.

Comments:
- Procurement tasks still need to be created to accurately forecast project spending
- Still need to split the FPGA development process into smaller tasks to eliminate the scheduling conflict resulting from pinout definitions not being completed until later dates

WBS Dictionary Updates:

Changes:
- No changes were made to the WBS dictionary in the last reporting period

Comments:
- Still need to finish defining all tasks in the present dictionary
- Dictionary will have to be reconciled with the WBS when the aforementioned changes are made to it.

WBS Map Updates:

Changes:
- No changes were made to the WBS Map(s) in the last reporting period

Comments:
- Need to reconcile WBS map with changes made in the last few months to the WBS and to update the task percent complete as indicated by the map.

Project Risk Updates:

New Risks:
- Possibility that the FIR filter chip will not meet timing specs.
  Probability: 50%   Impact: 5

Obsolete Risks:
- No risks have become obsolete in the last reporting period

Changes to Current Risk Probability and/or Impact:
- All risks remain the same in terms of probability and impact.

Contingency Changes:
- Contingency remains the same after the last reporting period.

Work Done in the Last Year –
Project Reporting Scheme Developing

EVLA Procurement Request Form

Date Submitted:	29Jan2004	**Request No.:** BC-29012004-0
Submitted By:	Brent Carlson	

Goods/Services Requested:

Part #	Name	Qty	Est. Unit Cost (USD/CAD)
16702B	Logic Analysis System Frame	1	$18,635.00 CAD
16702B-003	256 Mbyte System RAM, 4 Mbyte Video RAM	1	$4,252.00 CAD
16754A	4M 600MHz State/4GHz LA Mod	1	$43,175.00 CAD
E5387A	17-ch. diff. Soft Touch Connectorless Probe	2	$3,797.00 CAD
E5381A	17-ch. diff. Flying Leas	1	$3,658.00 CAD

Supplier(s):

Agilent Technologies   Steve Hall (steve_hall@agilent.com)
Web: www.agilent.com

Notes:

- You will have to iterate with me to write detailed specs for PWGSC, since there is not a sole-source justification.
- Get pricing from Agilent in USD – the CAD prices above do not reflect the rise of the CAD that well.
- The Agilent guy to contact is Steve Hall. I've attached spec sheets & email.

Set-Backs/Slow Downs in the Last Year

- Learning Curve - Amy
- Overhauling the WBS
- Project Management Consultant
- Project Central

Project Management Status Now

- Current Schedule in Good Working Order but Incomplete

- MS Access Tracking Database Made but Incomplete

- Project Reporting Outline Created but Plan not Finalized

Project Management Status Now – Current Schedule

- Baseline Set beginning Today – 09Mar2004

- Major Structure and Resource & Time Estimates Complete

- Project Central Running

- Procurement Tasks Need Scheduling

- Further Scheduling Needed on some Tasks (Procurement, Engineering Technicians, Some Hardware Specs, etc.)

Project Management Now – Current Schedule
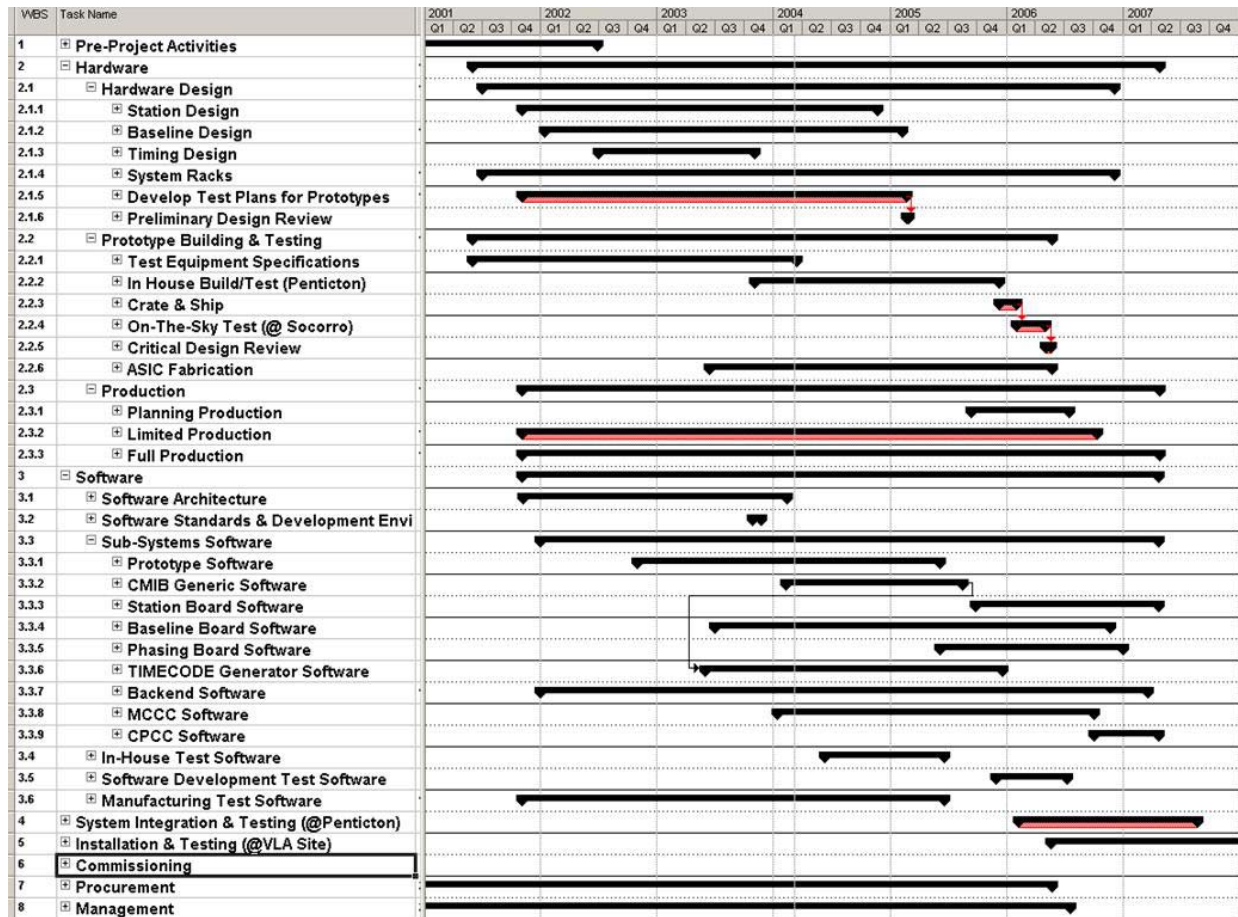
Project Management Status Now – Current Schedule

- Correlator Chip ASIC Prototype Fabrication: Jun2004 – Dec2004

- PDR: Feb2005 – Mar2005

- FIR Filter ASIC Prototype Fabrication: Sep2005 – Mar2006

- Hardware/Software Integration Testing: Oct2005 – Dec2005

- Final System Design Review (Penticton): Dec2005

- On-The-Sky Testing: Mar2006 – Apr2006

- CDR: May2006

- Limited Production Run: Jul2006 – Sep2006

- Full Production Run: Oct2006 – Jan2007

- Start Shared-Risk Observing: Dec2007

- Commissioning: May2008 – Dec2008

Project Management Status Now –
MS Access Tracking Database

Project Management Status Now – MS Access Tracking Database

EVLA Operating Budget Report

Budget Code:

Inital Allocation:

Requisition Number	Issue Date	Description	Supplier Name	Purchaser	Travel	Software	Equipment	Misc	Committed
Committed Funds -					#Error	#Error	#Error	#Error	#Error
							Total Committed Funds		#Error
							Free Balance		#Error

Project Management in the Future

- Project Schedule

- Project Database

- Project Reporting

- Project WBS Dictionary

- Project Risk Identification

- Project Tracking/Management

Project Management in the Future – Project Schedule

- Confirm Resource & Time Estimates

- Plan & Schedule Procurement Activities

- Finish Scheduling Some Tasks

- Continue Project Central Tracking Activities

Project Management in the Future – Project Database

- Add in Remaining Information
  - Past Spending Information
  - Projected Parts/Spending
  - Project Risks
- Link Costs with Tasks
- Create/Forecast Budget
- Begin Tracking Spending

Project Management in the Future – Project Reporting

- Confirm Present Reporting Plan

- Update Reports to Current Format

- Begin Constant Scheduled Reporting

- Set up Reporting Area on Web Site

Project Management in the Future –
Project WBS Dictionary

- Update WBS Dictionary to Reflect Current WBS

- Add in Remaining Missing Information

- Maintain and Publish on a Regular Basis

Project Management in the Future – Project Risk Identification

- Finish Identifying all Known Possible Risks

- Associate Risks with Tasks

- Associate Contingencies & Mitigation Plans with Risks

Project Management in the Future – Project Tracking/Management

- Restructure Weekly Meetings

- More Contact with Engineers

- No More Slipping!