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# ON-Line Archive Facility

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## Science Archive Mission

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- Record the history of ESO observations
- Make Archive a research tool -  
another VLT instrument
- Provide memory of Ins performance -  
help observatory operations to be predictable
- Support observation preparation and analysis

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# Typical ESO Data Rates per Night

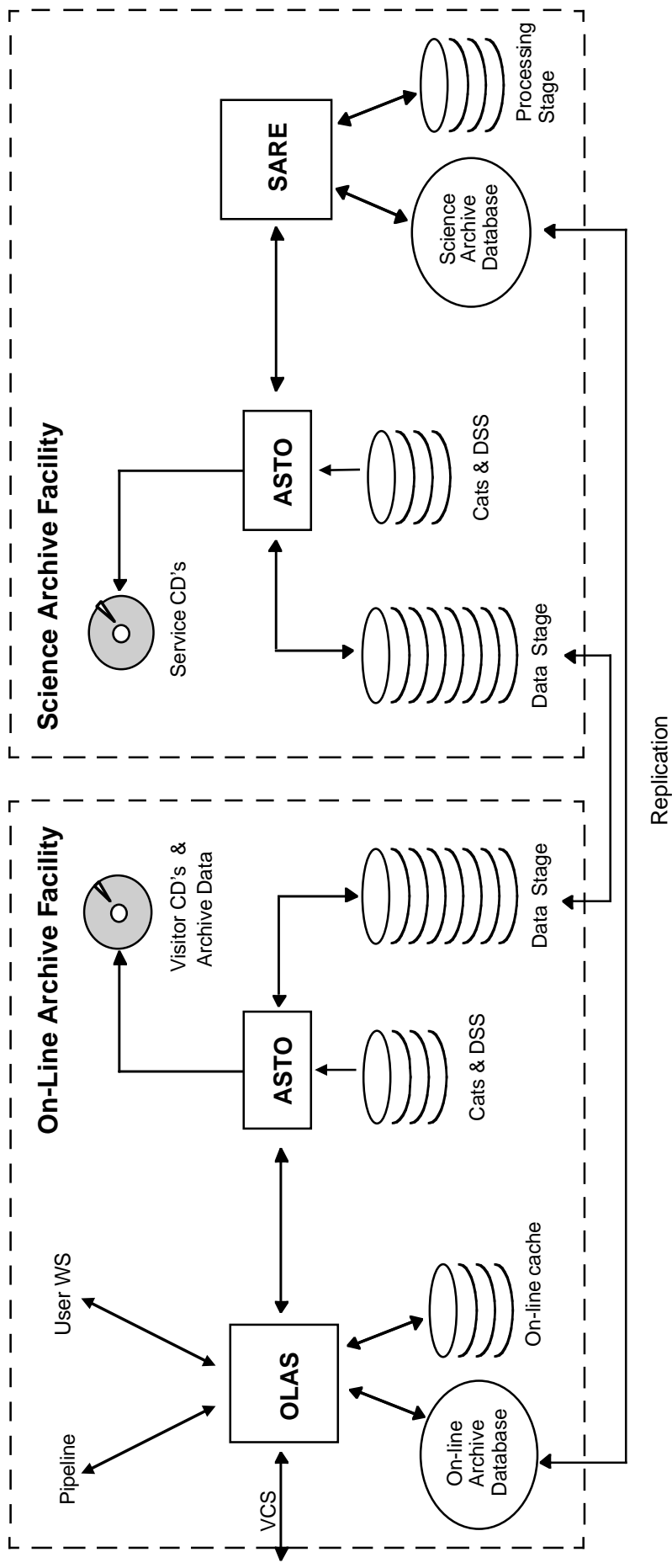
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	1999	2000	2001	2002
<b>UT1</b>				
ISAAC	4	4	4	4
FORS1	0.5	0.5		
SINFONI			0.5	0.5
CONICA/NAOS		1.5	1.5	1.5
<b>UT2</b>				
TESTCAM	0.5	0.5		
UVES	2.5	2.5	2.5	2.5
FORS2	0.5	0.5	0.5	0.5
FLAMES			2	2
<b>UT3</b>				
TESTCAM		0.5	0.5	
VIMOS		20	20	20
VISIR			1	1
<b>UT4</b>				
TESTCAM		0.5	0.5	
FORS1			0.5	0.5
NIRMOS			48	48
CRIRES				0.5
<b>VST</b>				
OMEGACAM			3.8	20
<b>LA SILLA</b>				
WFI	20	20	20	
EMMI/SUSI/SOFI	3	3	3	3
<b>VLT TYPICAL MIX (GB/NIGHT)</b>	<b>19.0</b>	<b>23.1</b>	<b>59.3</b>	<b>70.6</b>



# Archive System Overview

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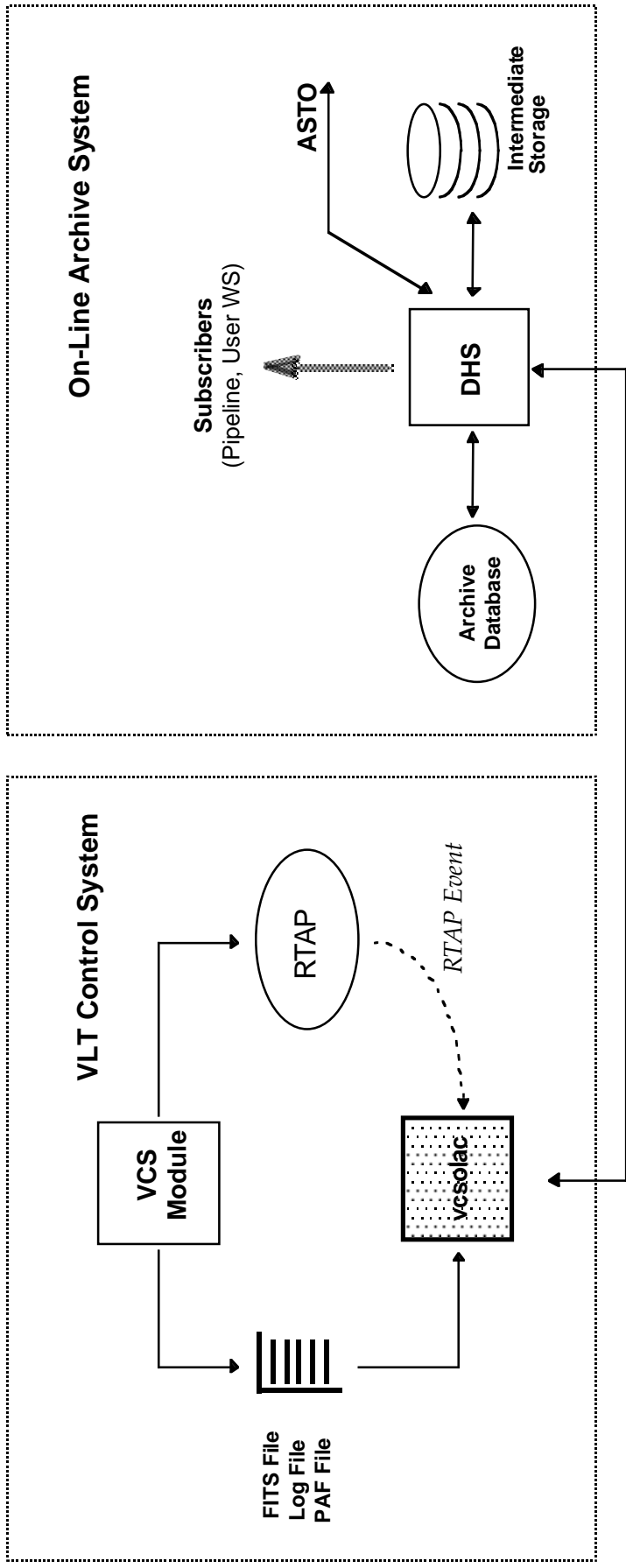


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# VCS-OLAS Interface

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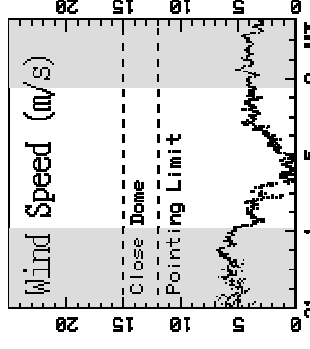
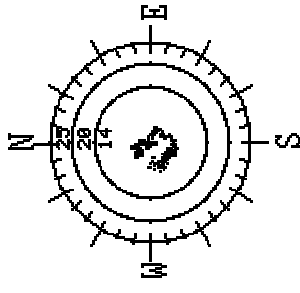
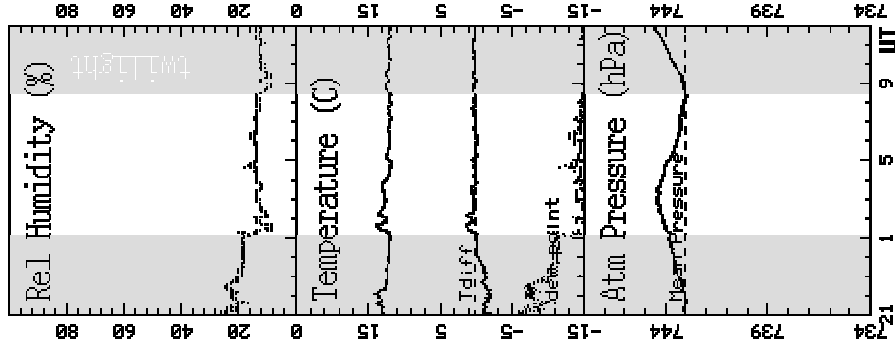


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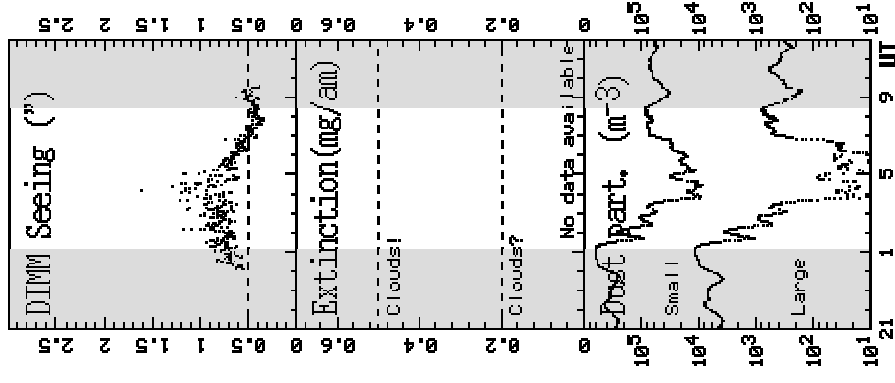


# Ambient Conditions Database

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Ambient conditions for  
 Paranal  
 on the night of  
 Thu, January 7, 1999  
 Night begin: 01:03 UT  
 end: 08:33 UT

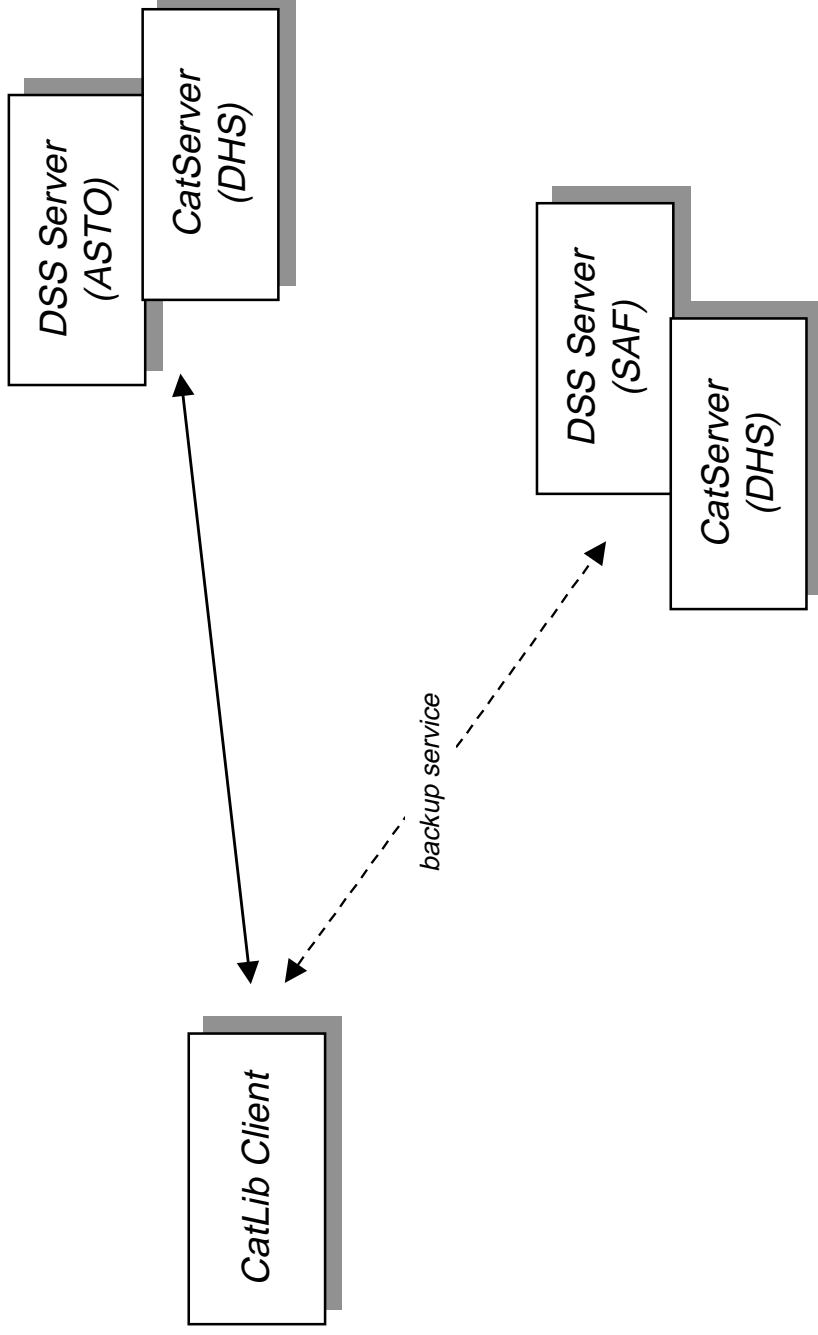




# Catalog & DSS Services

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# Lessons learnt: from development to operations

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## Robustness features

### Fault tolerant upon

- Network down
- File system full
- Database down
- File corrupted
- Task crash

### Persistent state

- Data backlog and recovery
- Error logs with varying verbosity levels



## **Lessons learnt: from development to operations**

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- **Total cost of ownership of real-time database replication**

- operation requires staff with high level training
- expertise is expensive and difficult to replace

**Solution: move to “deferred copy” replication**



## **Jsky Initiative**

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# **Building a Library of re-usable Java Components for Astronomy**

**<http://archive.eso.org/JSky>**

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