

Default Pre-Processing Pipeline

DP³ - brief Up-downdate

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DP³ - AIM

Aim: Do the most common pre/post-processing steps & compression in DP³

A- For each Sub-band/Spectral Window

1. Band Pass Correction
2. Flagging bad/RFI-infected data
3. Compressing/Collapsing along frequency/channels



Compressed Sub-band (one)

B- Compressed sub-bands

4. Combining all individual compressed sub-bands (36) into one single MSet



Compressed Mset (all 36 or 164 compressed sub-bands)

DP³ - Implementation

Software used

Executables (C++)- (1) Bandpass corrector (2) Flagger
(3) Data Squasher (4) Data Combiner

Scripts (Python) - (1) Control script (2) Node Script



Input file

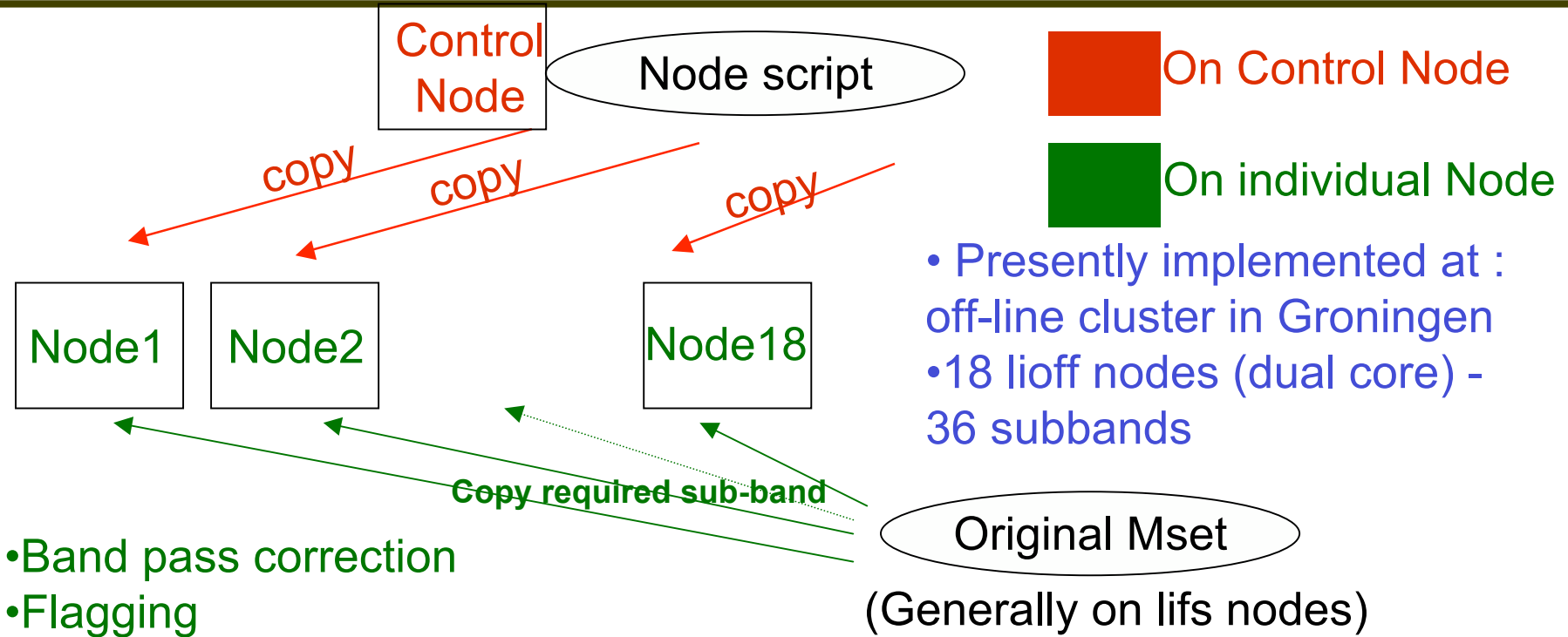
- Presently tested/implemented at : off-line cluster in Groningen

Information: Documentation at Operations wiki

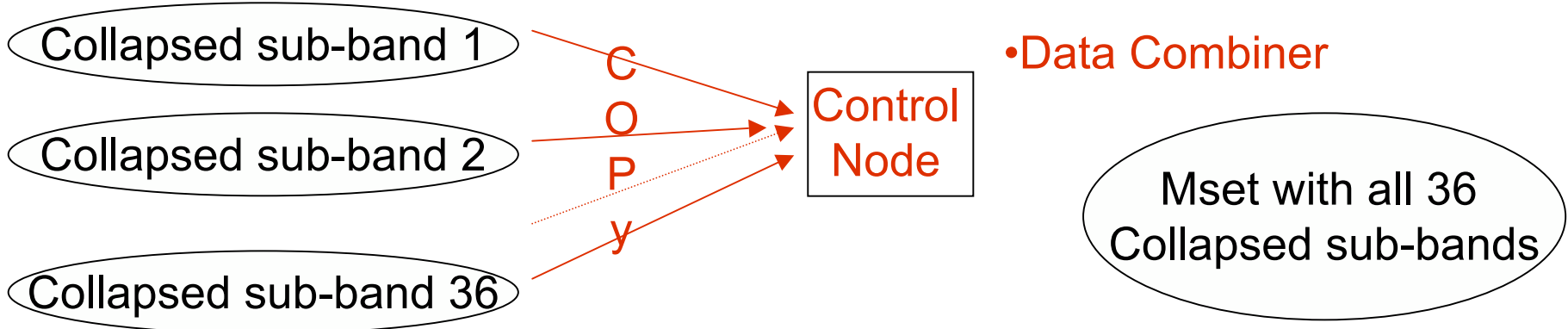
http://www.lofar.org/operations/doku.php?id=engineering:software:cs1_imaging_pipeline

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DP³ - Schematic



- Band pass correction
- Flagging
- Channel collapse/squasher



Present Status:- Initial Time Performance *

	Case1	Case2
• Copy to destination	5.2h	3.9h
• Band pass correction	3.7h	3.2h
• Freq Flagging	5.2h	4.3h
• Channel Collapse	9.0h	7.3h
• Copying back	0.3h	0.2h
• Data combiner	1.8h	1.8h
• <u>Total</u>	<u>27.0h</u>	<u>21.0h</u>

Case 1. **SB0,1,2,...17 on lifs001 -> SB0,1,2,...17 on lifs011**

Case 2. **SB0,1,2,...17 on lifs001 -> SB0,1,2,8 on lifs006, SB9,10,...,17 on lifs011**

MS5660, March 3-4, 2008, 14hrs, 10s integration
Each subband 195KHz, 18SBands of each 5.4GB

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Present Status - Future Works

- **Complete Pipeline has been tested and works.**
- **Issues with Frequency flagging!**
- **Come up with suitable default parameters for 3 stages?**
- **Header in the resultant MS - Apparently fixed - to be verified.**
- **Documentation on the wiki**
- **Speed - impt issue? For MS³ (20stns, 164SB): data -> 15 times more**
- **Speed up of >2 is quite likely at present apart from cluster/network issues**
- **Robustness of pipeline ?? (error catch up)**
- **Regularly used from?? May end, 2008??**
- **Frequent inspection/feedback from users -> useful**

Q & Discussions??

!! Thank you !!

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