

A Distributed Software Correlator

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JIVE

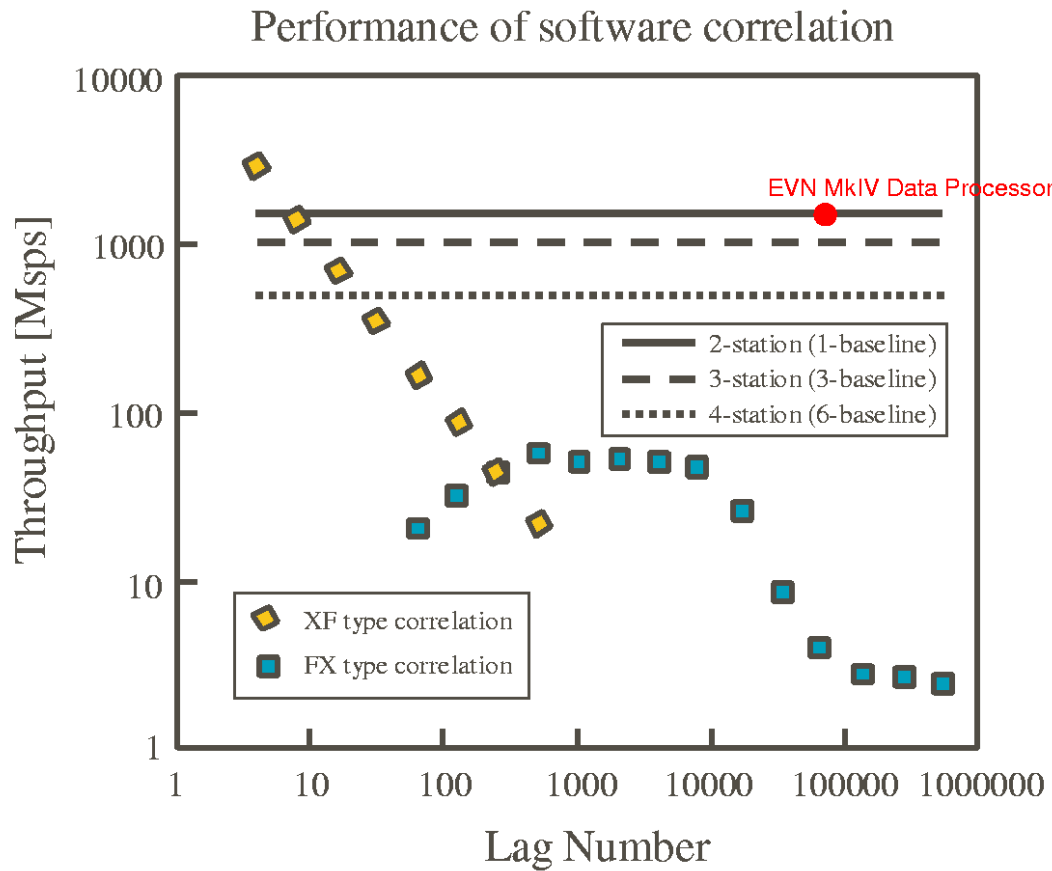


Figure 4. The XF and FX cross correlation performance evaluation using one PC. CPU cash memory size affect the performance loss at large lag.

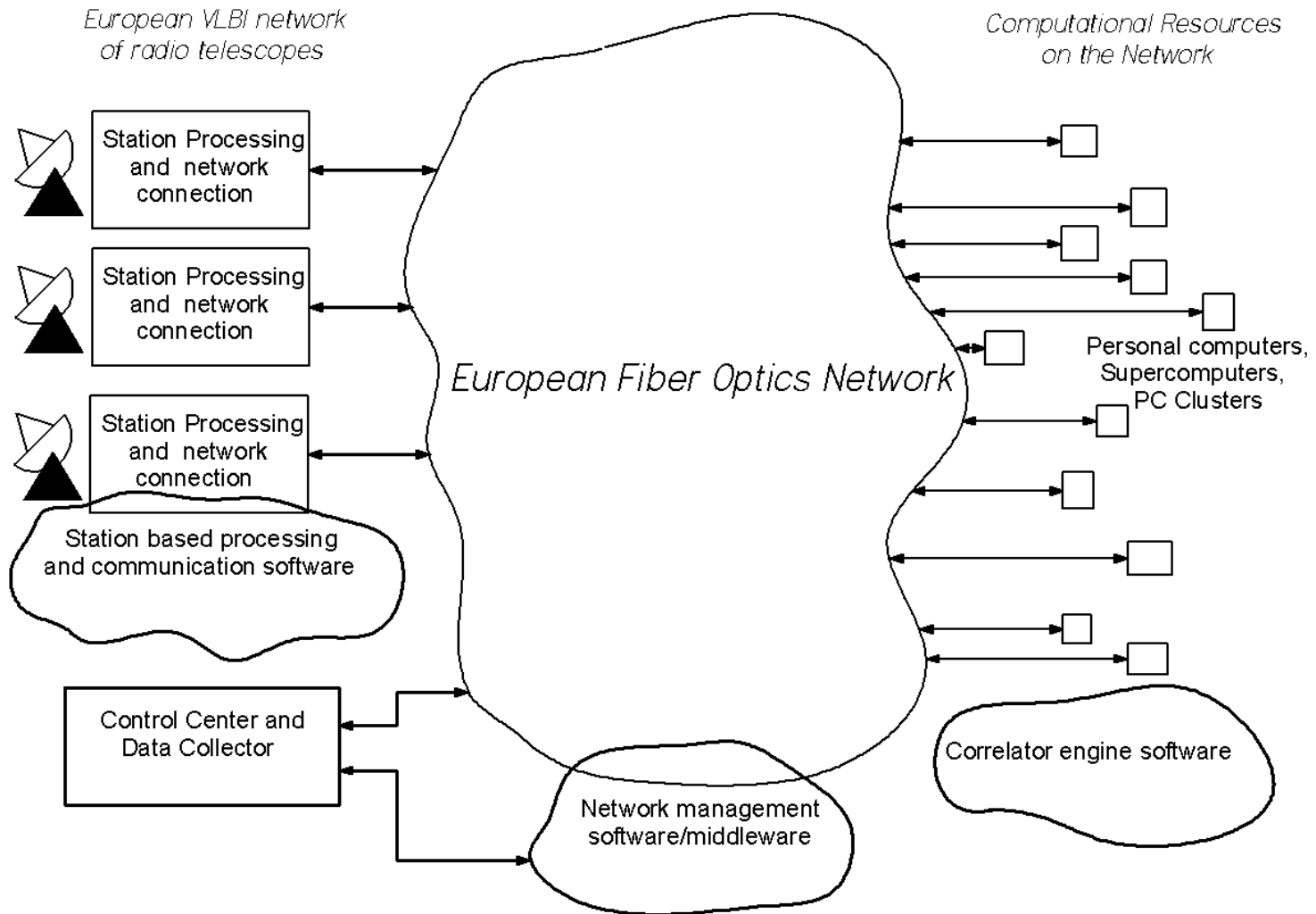
Kimura & Nakajima, IVS CRL-TOC News No. 21, 2002

- **EVN-MkIV – like: 16 stations @ 1Gbps
~40 TFlops**
- **MCR Linux Cluster at LLNL ~11 TFlops**
1152 dual 2.4GHz Xeon
- **SETI @Home last 24 hours ~54.7 TFlops**
1526 users mostly x86

**Computational capacity exists,
network on the way.**

Upgrades for “free.”

Software VLBI correlator conceptual block diagram



Challenges

- **Efficient allocation of heterogeneous computation & network**
- **Dynamic configuration**
- **Average-real-time performance**