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KM3NeT Acquisition Control

The multi-site nature of the KM3NeT project has influenced the development and evolution of its acquisition control software so that it doesnrsquo;t stick to a single detector site or configuration. It is flexible and portable to the extent that the same programs are used in data-taking shore station of neutrino telescopes as well as in testing sites for detector components at different stages of the integration. Flexibility is obtained through high modularity and tight integration with the central database system. On the other hand, the software architecture can be defined as \"maximally disconnected\" to ensure that no \"single point of failure\" exists and that each software service can continue to operate in the temporary absence of others. The most recent development is dynamic resource provisioning and failover, to automatically cope with the possible event of a hardware failure of one or more data taking servers or network elements just before or during a transient neutrino burst: if the number of damaged units is not too large (typically failures of one or two units), the system automatically switches, within a few seconds, to a downgraded but working configuration to ensure continuity of operation and minimal data loss. Dynamic resource provisioning and failover is now entering the stage of preliminary tests.

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