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IDC Re-Engineering Project, Phase 2

The International Data Centre (IDC) is conducting a three-phase, multi-year re-engineering project to improve capabilities and long-term maintainability of their system for acquisition, processing, and analysis of seismic, hydroacoustic, and infrasonic (SHI) data. The primary goal of phase 2 of this project (just completed) was to specify and design a new software architecture that will meet the needs of the IDC and facilitate extensibility to meet anticipated future needs. Work started with eliciting the requirements for the re-engineered system, in the form of specifications, use cases, and storyboards that define the desired features and behaviors of the future system. High-level architectural concepts enable features such as improved configurability, comprehensive capture and use of data provenance to provide insight into processing results, and extensibility to accommodate new processing and analysis components based on innovations emerging from the monitoring research community. An important enhancement that will enable this extensibility is the consideration of a new, object-oriented data model for use by all processing components in the system. Together, the various requirements artifacts and the architecture baseline will enable development of a consistent, reliable system to meet the needs of CTBT member states for decades to come.

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