

## HIGH LEVEL DESIGN

This checklist covers high level design issues. The term component is used to refer to high level design elements that may include objects, components, modules, packages, sub-systems, etc. See *CxStand\_Design* for a discussion of different design levels in CxOne.

### General

- HLD-1* Does the design conform to *CxCheck\_Design*?
- HLD-2* Are all major components described and justified?
- HLD-3* Are there a sufficient number of views and/or models for all major aspects of the design to be fully understood?
- HLD-4* Has the dataflow among all components been described?
- HLD-5* Are all major algorithms described and justified?

### Component Design

- HLD-6* Are component boundaries well-defined, including functionality and interfaces?
- HLD-7* Does the design limit component connections and interaction?
- HLD-8* Have all shared data and resources between components been described?
- HLD-9* Is the decomposition of system components logical and efficient?

### Dynamic Modeling

- HLD-10* Is the problem domain model sufficient to capture all states and behavior?
- HLD-11* Are all significant system meta-states and events captured?

### Data Structures

- HLD-12* Are all major data structures described and justified?
- HLD-13* If appropriate are major data structures hidden by abstraction layers?
- HLD-14* Is the conceptual view for all composite data elements and objects documented?

### Routine Design

- HLD-15* Are inputs to routines necessary and sufficient to perform the required operation?
- HLD-16* Do routines clearly state how the output is derived from input or shared data?
- HLD-17* Are all the outputs produced by a routine used?

### Object Oriented Issues

- HLD-18* Does the design conform to *CxCheck\_ObjectOrientedDesign*?

### Is a Strategy Described and Justified for ....

- HLD-19* handling special states? (e.g. abnormal termination, error recovery, losing power)
- HLD-20* handling failure of the system? (e.g. process termination, system recovery)
- HLD-21* memory management? Does it include memory use estimates?
- HLD-22* shared resource management? Are the modules that use the shared resources indicated?
- HLD-23* handling strings? Is localization or internationalization an issue?