Appendix A. Requirements Trace

The Interim Release 1 (Ir1), TRMM Development (Release A) and AM-1 Development (Release B) Level 4 requirements listed in Table A-1 reflect the RTM requirements database RELB_CDR_030196. The Object Classes listed are from the CDR version of OMT and are described throughout this document., as are the CSCs , CIs and subsystem listed.

Table A-1. Requirements Trace (1 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20010	The PRONG CI shall be developed with configuration-controlled Application Programming Interfaces (APIs) to support the development and integration of DAAC value-added processing.	PRONG
S-DPS-20020	The PRONG CI shall have the capability to incorporate DAAC-developed software required to support discipline specific needs.	DpPrScheduler DpPrCotsManager
S-DPS-20030	The PRONG CI shall be capable of operating in a 24-hour a day, 7-day week mode.	SPRHW PRONG
S-DPS-20040	The PRONG CI design and implementation shall have the flexibility to accomodate Processing expansion up to a factor of 3 in its capacity with no changes to the design, and up to a factor of 10 without major changes to its design. Such expansion in capacity or capability shall be transparent to existing algorithms or product specifications.	SPRHW PRONG
S-DPS-20100	The PRONG CI shall request information about the health and availability of a Hardware Resource by using a Systems Management Subsystem (MSS) provided Resource Management API (Application Program Interface).	AUTOSYS/AUTOEXPERT
S-DPS-20120	The PRONG CI shall inform the MSS using a MSS provided Fault Management API when a fault attributed to a MSS managed resource has occurred.	PRONG AUTOSYS/AUTOEXPERT
S-DPS-20130	The PRONG CI shall provide Fault Management data to the MSS using a MSS provided Fault Management API.	AUTOSYS/AUTOEXPERT PRONG
S-DPS-20140	The PRONG CI shall provide Performance Management data to the MSS using a MSS provided Performance Management API.	PRONG AUTOSYS/AUTOEXPERT

Table A-1. Requirements Trace (2 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20150	The PRONG CI shall provide Accounting Management data to the MSS using a MSS provided Accounting Management API.	PRONG
S-DPS-20160	The PRONG CI shall provide Accountability Management data to the MSS using a MSS provided Accountability Management API.	PRONG AUTOSYS/AUTOEXPERT
S-DPS-20170	The operations staff shall have the capability to modify the configuration of Data Processing subsystem Hardware resources.	DpPrResourceManager DpPrCotsManager DpPrDataManager DpPrExecutionManager AUTOSYS/AUTOEXPERT
S-DPS-20180	The PRONG CI shall provide an interface to support the modification of the configuration of the Data Processing subsystem Hardware resources.	DpPrDataManager DpPrPge AUTOSYS/AUTOEXPERT DpPrCotsManager DpPrResourceManager
S-DPS-20190	The PRONG CI shall have the capability to modify the configuration of the Data Processing subsystem Hardware resources.	PRONG
S-DPS-20191	The PRONG CI shall have the capability to modify the configuration settings of the Data Processing subsystem Hardware resources.	PRONG
S-DPS-20200	The PRONG CI shall provide Configuration Management data to the MSS using a MSS provided Configuration Management API.	PRONG
S-DPS-20210	The PRONG CI shall have the capability to determine the Operational state of a Hardware or Software component.	PRONG MSS
S-DPS-20220	The operations staff shall have the capability to request a Data Processing Subsystem Resource Utilization Report from the MSS based on time span, resource classification, or operational role.	MSS DpPrResourceManager
S-DPS-20230	The PRONG CI shall provide Security Management data to the MSS using a MSS provided Security Management API.	AUTOSYS/AUTOEXPERT PRONG
S-DPS-20240	The PRONG CI shall provide Scheduling Management data to the MSS using a MSS provided Scheduling Management API.	PRONG MSS
S-DPS-20330	The PRONG CI shall accept a Cancel Data Processing Request message to delete a Data Processing Request from the Processing Queue.	DpPrCotsManager PlDPRB AUTOSYS/AUTOEXPERT DpPrExecutionManager DpPrScheduler

Table A-1. Requirements Trace (3 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20340	The PRONG CI shall reject a Cancel Data Processing Request if the Cancel Data Processing Request is received from an unauthorized source.	DpPrDataManager DpPrExecutionManager DpPrScheduler PlDPRB AUTOSYS/AUTOEXPERT
S-DPS-20400	The PRONG CI shall accept a Data Processing Request (DPR) that requests the execution of a PGE.	AUTOSYS/AUTOEXPERT DpPrDataManager DpPrScheduler PlDPRB PlPGE
S-DPS-20410	The PRONG CI shall validate the information associated with the Data Processing Request.	PlPGE DpPrDataManager PlDPRB
S-DPS-20420	The PRONG CI shall reject a Data Processing Request if the Data Processing Request is received from an unauthorized source.	DpPrDataManager DpPrScheduler PlDPRB
S-DPS-20430	The PRONG CI shall take a pre-determined error recovery action if the PGE identified in the Data Processing Request is not available for execution.	DpPrScheduler PlDPRB PlPGE
S-DPS-20440	The PRONG CI shall take a pre-determined error recovery action if the level of validation required for execution in the Data Processing Operational Environment has not been attained by the PGE version identified in the Data Processing Request .	DpPrScheduler PlDPRB PlPGE
S-DPS-20460	The PRONG CI shall take a pre-determined error recovery action if the resource which maintains the input data is not available for data staging.	DsClRequest EcSrAsyncRequest_C PlDPRB DsClCommand DpPrDataManager PlDataGranule
S-DPS-20470	The PRONG CI shall take a pre-determined error recovery action if the resource identified as the recipient of the Output Data is not available for data destaging.	DpPrDataManager AUTOSYS/AUTOEXPERT
S-DPS-20480	The PRONG CI shall take a pre-determined error recovery action if the computer resource required to execute the PGE is not available.	AUTOSYS/AUTOEXPERT DpPrResourceManager
S-DPS-20490	The PRONG CI shall queue only validated Data Processing Requests	AUTOSYS/AUTOEXPERT DpPrCotsManager DpPrDataManager PlDPRB PlPGE

Table A-1. Requirements Trace (4 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20500	The Processing shall queue the Data Processing Request using the Priority Information associated with the Data Processing Request.	PlPGE AUTOSYS/AUTOEXPERT PlDPRB DpPrScheduler DpPrDataManager
S-DPS-20510	The PRONG CI shall respond to the source of the Data Processing Request with a Data Processing Request Response upon the completion of validation and queue processing.	DpPrCotsManager DpPrScheduler AUTOSYS/AUTOEXPERT
S-DPS-20520	The Data Processing Request Response shall include a reason for rejection if the Data Processing Request was rejected.	DpPrCotsManager DpPrScheduler AUTOSYS/AUTOEXPERT
S-DPS-20600	The PRONG CI shall be able to determine what data required for PGE execution needs to be staged.	PlDPRB PlDataGranule DpPrScheduler DpPrDataManager EcUrUR
S-DPS-20610	The PRONG CI shall be able to determine that an ECS Data Product required for PGE execution requires staging.	DpPrDataManager DpPrDataMap DpPrScheduler PlDPRB PlDataGranule
S-DPS-20620	The PRONG CI shall be able to determine that the metadata associated with a ECS Data Product required for PGE execution requires staging.	PlDataGranule EcUrUR DpPrDataMap DpPrScheduler PlDPRB
S-DPS-20630	The PRONG CI shall be able to determine that an Ancillary Data Product required for PGE execution requires staging.	DpPrDataMap DpPrScheduler PlDPRB PlDataGranule DpPrDataManager
S-DPS-20640	The PRONG CI shall be able to determine that a Special Data Product required for PGE execution requires staging.	PlDataGranule EcUrUR DpPrScheduler DpPrDataMap DpPrDataManager
S-DPS-20650	The PRONG CI shall be able to determine that a Calibration Coefficient Data File required for PGE execution requires staging.	PlDataGranule EcUrUR DpPrScheduler DpPrDataMap PlDPRB
S-DPS-20660	The PRONG CI shall be able to determine that a PGE requires staging.	DpPrScheduler EcUrUR

Table A-1. Requirements Trace (5 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20670	The PRONG CI shall be able to determine that metadata associated with a PGE requires staging.	EcUrUR PlDPRB
S-DPS-20680	The PRONG CI shall support the movement of data from one Data Processing subsystem controlled storage resource to another Data Processing subsystem controlled storage resource.	AUTOSYS/AUTOEXPERT DpPrCotsManager DpPrDataManager DpPrDataMap PlDPRB PlDataGranule
S-DPS-20690	The PRONG CI shall initiate the data staging process when the disk space required to support successful data staging is available.	PlDataGranule DpPrDataManager DsClCommand DsClESDTReferenceCollector PlDPRB DsClRequest
S-DPS-20691	The PRONG CI shall begin staging data at a time far enough in advance to complete staging of input data prior the predicted start of PGE execution.	DpPrJobB DpPrEventManagerB
S-DPS-20692	The PRONG CI shall not begin staging data too far in advance of PGE execution in such a way that unnecessarily utilizes disk space.	AUTOSYS/AUTOEXPERT DpPrJobB
S-DPS-20693	The PRONG CI input data staging shall avoid the creation of deadlock situations.	AUTOSYS/AUTOEXPERT DpPrJobB
S-DPS-20694	The PRONG CI shall cancel input data staging if the DPR that initiated the input data staging is canceled.	AUTOSYS/AUTOEXPERT PlDPRB DpPrCotsManager
S-DPS-20695	The PRONG CI shall delete the staged data if the DPR that initiated the input data staging is cancelled and no other DPR needs it.	PlDPRB DpPrScheduler DpPrCotsManager
S-DPS-20696	The PRONG CI shall complete the input data staging and suspend the PGE job if the suspension command is received at the time of data staging.	AUTOSYS/AUTOEXPERT PlDPRB DpPrScheduler DpPrJobB
S-DPS-20700	The PRONG CI shall request data staging by sending a Data Request to the SDSRV CI .	DsClCommand DsClESDTReferenceCollector DsClRequest PlDPRB PlDataGranule DpPrDataManager
S-DPS-20710	The PRONG CI shall accept a Data Request Status message in response to the Data Request Message.	DpPrDataManager

Table A-1. Requirements Trace (6 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20720	The Data Request Status message shall inform the PRONG CI on the success or failure of data staging.	DpPrDataManager
S-DPS-20730	The PRONG CI shall provide the capability to terminate the data staging process.	AUTOSYS/AUTOEXPERT DpPrDataManager DpPrCotsManager
S-DPS-20740	The PRONG CI shall send an Data Request message to the SDSRV CI to terminate the data staging process.	DpPrDataManager
S-DPS-20750	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request if the data staging process was not completed successfully for the Data Processing Request.	DpPrDataManager
S-DPS-20760	The Complete Notification Status message shall contain error information if the message was sent as a result of the failure of data staging.	DpPrDataManager
S-DPS-20770	The PRONG CI shall accept ECS Data Products from the SDSRV CI.	DpPrDataManager
S-DPS-20780	The PRONG CI shall accept metadata from the SDSRV CI.	DpPrDataManager
S-DPS-20790	The PRONG CI shall accept PGEs from the SDSRV CI.	DpPrScheduler
S-DPS-20800	The PRONG CI shall accept Calibration Coefficient data from the SDSRV CI.	DpPrDataManager
S-DPS-20810	The PRONG CI shall accept Special Data Products from the SDSRV CI.	DpPrDataManager
S-DPS-20820	The PRONG CI shall accept Ancillary Data Products from the SDSRV CI.	DpPrDataManager
S-DPS-20830	The PRONG CI shall send a Data Insert Request message to the SDSRV CI to initiate the destaging of data.	DpPrResourceManager DpPrDataManager DsClCommand DsClRequest PlDPRB AUTOSYS/AUTOEXPERT EcSrAsyncRequest_C PlDataGranule
S-DPS-20840	The Data Request Status message shall inform the PRONG CI on the success or failure of data destaging.	SDSRV

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-20850	The PRONG CI shall destage Intermediate Data Products to the SDSRV CI.	DsClRequest PlDPRB EcSrAsyncRequest_C DpPrDataManager DsClCommand PlDataGranule AUTOSYS/AUTOEXPERT DpPrResourceManager DsClESDTReferenceCollector
S-DPS-20860	The PRONG CI shall destage ECS Data Products to the SDSRV CI.	DpPrDataManager DsClCommand DsClRequest PlDPRB PlDataGranule AUTOSYS/AUTOEXPERT DpPrResourceManager EcSrAsyncRequest_C DpPrCotsManager
S-DPS-20870	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request if the data destaging process was not completed successfully for the Data Processing Request.	DpPrDataManager
S-DPS-20880	The Complete Notification Status message shall contain error information if the message was sent as a result of the failure of data destaging.	DpPrDataManager
S-DPS-21000	The PRONG CI shall initiate execution of a PGE when the following is true: a. When all input data required to execute the PGE is available on local Data Processing subsystem storage resources. b. When the computer hardware resources are available to support execution of a PGE based on the computer hardware resource information associated with the Data Processing Request. c. When the Priority Information associated with the Data Processing Request has been fulfilled. d. When the maximum disk space requirements defined for the PGE are available to support the successful execution of the PGE e. When the maximum memory resources defined for the PGE are available to support the	DpPrCotsManager DsClRequest DsClCommand DpPrPge DpPrPcf DsClESDTReferenceCollector DpPrExecutionManager PlDataGranule DpPrResourceManager AUTOSYS/AUTOEXPERT PlDPRB

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21070	The PRONG CI shall allocate disk space to support the execution of a PGE.	DpPrResourceManager AUTOSYS/AUTOEXPERT DpPrExecutionManager DpPrDataManager DpPrCotsManager
S-DPS-21080	The PRONG CI shall allocate memory to support the execution of a PGE.	DpPrCotsManager DpPrDataManager DpPrExecutionManager AUTOSYS/AUTOEXPERT DpPrPge
S-DPS-21090	The PRONG CI shall allocate CPU to support the execution of a PGE.	DpPrCotsManager DpPrDataManager DpPrPge AUTOSYS/AUTOEXPERT DpPrExecutionManager
S-DPS-21120	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the input data required to execute a PGE.	DsClCommand AUTOSYS/AUTOEXPERT PlDataGranule PlDPRB DsClESDTReferenceCollector DpPrPge DpPrPcf DpPrExecutionManager DpPrExecutable DpPrCotsManager DsClRequest
S-DPS-21124	The PRONG CI shall receive advertisements from the IOS.	PRONG
S-DPS-21126	The PRONG CI shall send advertisement subscriptions to the IOS.	PRONG
S-DPS-21130	The PRONG CI shall create a Process Control File to provide information to the SDP Toolkit CI about the output data generated from the executing PGE.	DpPrExecutable DpPrResourceManager AUTOSYS/AUTOEXPERT PlDataGranule PlDPRB DsClRequest DsClESDTReferenceCollector DsClCommand DpPrPge DpPrPcf DpPrExecutionManager

Table A-1. Requirements Trace (9 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21140	The PRONG CI shall create a mapping of logical file handles to physical file handles in the Process Control File for the input data required to execute a PGE.	PlDPRB DsClCommand DpPrPge DpPrExecutionManager DpPrExecutable DpPrCotsManager PlDataGranule DsClESDTReferenceCollector DsClRequest DpPrResourceManager AUTOSYS/AUTOEXPERT
S-DPS-21150	The PRONG CI shall create a mapping of logical file handles to physical file handles in the Process Control File for the output data generated from the executing PGE.	DpPrPge DsClCommand DsClESDTReferenceCollector DpPrResourceManager DpPrExecutable AUTOSYS/AUTOEXPERT DsClRequest PlDPRB DpPrPcf PlDataGranule DpPrExecutionManager
S-DPS-21160	The PRONG CI shall create a Status Message File to be used by the SDP Toolkit CI to collect Toolkit status and error information about the execution of a PGE.	DpPrResourceManager PlDPRB DpPrPge DpPrExecutionManager DpPrCotsManager DpPrExecutable
S-DPS-21170	The PRONG CI shall create User Status Message Files to be used by the SDP Toolkit CI during PGE execution if requested through the data defining the characteristics of the PGE.	DpPrPge DpPrExecutionManager DpPrExecutable AUTOSYS/AUTOEXPERT DpPrCotsManager PlDPRB
S-DPS-21180	The PRONG CI shall allocate 1 shared memory attachment to a PGE to support access to internal memory during execution.	DpPrExecutionManager
S-DPS-21210	The PRONG CI shall monitor the use of disk space by a PGE during execution.	DpPrExecutionManager DpPrPge DpPrExecutable DpPrCotsManager AUTOSYS/AUTOEXPERT

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21220	The PRONG CI shall take a predetermined error recovery action if the maximum disk space requirements defined for that PGE has been exceeded by an adaptable percentage value.	DpPrResourceManager DpPrCotsManager DpPrExecutable AUTOSYS/AUTOEXPERT DpPrExecutionManager
S-DPS-21230	The PRONG CI shall take a predetermined error recovery action if the maximum CPU time requirements defined for that PGE has been exceeded by an adaptable percentage value.	DpPrCotsManager DpPrComputer DpPrResourceManager AUTOSYS/AUTOEXPERT DpPrPge DpPrExecutionManager
S-DPS-21240	The PRONG CI shall take a predetermined error recovery action if the maximum memory usage requirements defined for that PGE has been exceeded by an adaptable percentage value.	DpPrComputer DpPrResourceManager AUTOSYS/AUTOEXPERT DpPrPge DpPrExecutionManager DpPrCotsManager
S-DPS-21320	The PRONG CI shall use a SDP Toolkit API to associate Processing-Specific Metadata with each Granule of a generated Data Product.	DpPrPge DpPrPcf DpPrExecutable
S-DPS-21330	The PRONG CI shall provide Processing-Specific Metadata to the SDP Toolkit to be associated with each Granule of a generated Data Product.	DpPrExecutionManager DpPrPcf DpPrExecutable
S-DPS-21460	The PRONG CI shall use a SDP Toolkit API to associate Q/A-Specific Metadata with each Granule of a Data Product.	GlParameterList DsClCommand DsClESDTReferenceCollector PlDataTypeB GlParameter DsClRequest
S-DPS-21490	The PRONG CI shall record the Q/A-Specific Metadata of each input Data Product as part of the Q/A-Specific Metadata of the Granule of a Data Product.	DpPrExecutable DpPrPcf
S-DPS-21500	The PRONG CI shall use algorithms provided by the scientists to perform automated QA on generated Data Products.	PlPGE DpPrCotsManager DpPrDataManager PlDPRB AUTOSYS/AUTOEXPERT
S-DPS-21510	The PRONG CI shall support the capability to update Q/A metadata as required by the execution of a PGE performing automated Q/A.	DpPrPcf DpPrExecutable

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21520	The PRONG CI shall coordinate the deletion of the outputs of a PGE which were temporarily stored in the SDSRV CI.	EcSrAsyncRequest_C DsClCommand DsClESDTReferenceCollector DpPrDataManager DpPrCotsManager DsClRequest PlDPRB AUTOSYS/AUTOEXPERT PlDataGranule
S-DPS-21530	The PRONG CI shall assign a unique Granule Identifier to each Granule of a generated Data Product.	DpPrDataManager
S-DPS-21540	The PRONG CI shall destage all output data generated by a PGE to the SDSRV CI. (SEE Data Staging and Destaging Reqs for more details).	DpPrCotsManager DpPrDataManager DsClCommand DsClESDTReferenceCollector DsClRequest PlDataGranule AUTOSYS/AUTOEXPERT DpPrResourceManager EcSrAsyncRequest_C
S-DPS-21550	The PRONG CI shall not delete the output data generated by a PGE until the Data Request Status message is received from the SDSRV CI indicating that the output data was successfully copied to the SDSRV CI resources.	DpPrDataManager
S-DPS-21560	If the resource fails during the execution of a PGE, the PRONG CI shall be capable of initiating the execution of the PGE without having to regenerate that PGE's input data.	DpPrCotsManager DpPrResourceManager AUTOSYS/AUTOEXPERT DpPrPge DpPrPcf DpPrDataManager DpPrExecutionManager
S-DPS-21570	If a PGE fails abnormally during execution, the PRONG CI shall be capable of initiating the execution of the PGE without having to regenerate that PGE's input data.	PlDataGranule AUTOSYS/AUTOEXPERT DpPrCotsManager PlDPRB DsClRequest DsClESDTReferenceCollector DsClCommand DpPrPge DpPrPcf DpPrExecutionManager DpPrDataManager DpPrExecutable

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21580	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request at the completion of PGE execution if the execution was terminated by the PRONG CI or the outputs of the PGE did not require destaging.	DpPrResourceManager AUTOSYS/AUTOEXPERT DpPrPge DpPrExecutionManager DpPrDataManager
S-DPS-21590	Upon the completion of destaging, the PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request.	DpPrExecutionManager DpPrCotsManager DpPrPge DpPrResourceManager AUTOSYS/AUTOEXPERT
S-DPS-21700	The operations staff shall have the capability of terminating the data staging process for a Data Processing Request.	DsClCommand DsClESDTReferenceCollector DsClRequest PlDPRB PlDataGranule EcSrAsyncRequest_C
S-DPS-21710	The operations staff shall have the capability of terminating the data destaging process for a Data Processing Request.	PlDataGranule EcSrAsyncRequest_C AUTOSYS/AUTOEXPERT PlDPRB DpPrCotsManager DsClCommand DpPrResourceManager DpPrDataManager DsClESDTReferenceCollector
S-DPS-21720	The operations staff shall have the capability of canceling the processing of a Data Processing Request.	PlDPRB AUTOSYS/AUTOEXPERT DpPrExecutionManager DpPrDataManager DpPrCotsManager
S-DPS-21730	The operations staff shall have the capability to suspend the processing of a Data Processing Request.	DpPrCotsManager DpPrScheduler
S-DPS-21740	The operations staff shall have the capability to resume suspended processing of a Data Processing Request.	DpPrScheduler
S-DPS-21750	The operations staff shall have the capability of modifying the information associated with the Data Processing Request.	PlDPRB AUTOSYS/AUTOEXPERT DpPrScheduler
S-DPS-21760	The operations staff shall have the capability of viewing the Processing Queues.	DpPrCotsManager
S-DPS-21770	The operations staff shall have the capability of requesting the status of a Data Processing Request.	AUTOSYS/AUTOEXPERT DpPrCotsManager PlDPRB

Table A-1. Requirements Trace (13 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21780	The operations staff shall have the capability of reporting resource management information.	DpPrCotsManager DpPrExecutionManager AUTOSYS/AUTOEXPERT DpPrResourceManager DpPrDiskPartition
S-DPS-21790	The operations staff shall have the capability of viewing a Data Product.	DpPrQaMonitor PlDataGranule
S-DPS-21800	The operations staff shall have the capability of viewing the algorithms used to generate a Data Product.	DpPrQaMonitor
S-DPS-21810	The operations staff shall have the capability of viewing the ECS Data Products used to generate a Data Product. .	DpPrQaMonitor
S-DPS-21820	The operations staff shall have the capability of viewing the Calibration Coefficient Data used to generate a Data Product.	DpPrQaMonitor
S-DPS-21830	The operations staff shall have the capability of viewing the Ancillary Data Products used to generate a Data Product.	DpPrQaMonitor
S-DPS-21840	The operations staff shall have the capability of viewing the Status Information files associated with the generated Data Product.	AUTOSYS/AUTOEXPERT
S-DPS-21850	The operations staff shall have the capability of viewing all metadata associated with the generation of a Data Product.	DpPrQaMonitor
S-DPS-21855	The PRONG CI GUI shall conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	PRONG
S-DPS-21856	To the extent possible, the PRONG CI COTS GUI shall be configured to conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	PRONG
S-DPS-21860	The PRONG CI HMI Functions shall be accessible via an API (Application Program Interface).	AUTOSYS/AUTOEXPERT
S-DPS-21880	The PRONG CI shall provide a User Interface to authorized users.	AUTOSYS/AUTOEXPERT DpPrScheduler DpPrDataManager DpPrExecutionManager
S-DPS-21890	The PRONG CI shall provide a Processing Queue Display as a visual display of the Processing Queues.	AUTOSYS/AUTOEXPERT

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-21900	The PRONG CI shall update the Processing Queue Display information when the Processing State of a queued Data Processing Request is modified.	DpPrCotsManager
S-DPS-21910	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the queue processing of a Data Processing Request.	AUTOSYS/AUTOEXPERT
S-DPS-21920	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the data staging process.	DpPrDataManager
S-DPS-21930	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the execution of a PGE.	DpPrExecutionManager
S-DPS-21940	The PRONG CI shall update the Processing Queue Display information with an alert message when a fault has occurred during the data destaging process.	DpPrDataManager
S-DPS-21950	The PRONG CI shall log all alert messages which are used to update the Processing Queue display information.	AUTOSYS/AUTOEXPERT
S-DPS-21960	The PRONG CI shall provide a user interface to cancel the processing of a Data Processing Request.	DpPrScheduler
S-DPS-21970	The PRONG CI shall provide a user interface to modify the Priority Information associated with a Data Processing Request.	DpPrScheduler
S-DPS-21980	The PRONG CI shall provide a user interface to modify the information associated with a Data Processing Request.	DpPrScheduler
S-DPS-21990	The PRONG CI shall provide a user interface to suspend the processing of a Data Processing Request.	DpPrScheduler
S-DPS-22000	The PRONG CI shall provide a user interface to resume suspended processing of a Data Processing Request.	DpPrScheduler
S-DPS-22010	The PRONG CI shall provide a user interface to view the data associated with the Data Processing Request.	DpPrScheduler
S-DPS-22020	The PRONG CI shall provide a user interface to support the manual Q/A of Data Products.	DpPrQaMonitor

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-22030	The PRONG CI shall provide access to data visualization tools to support the manual Q/A of Data Products.	EOSVIEW DpPrQaMonitor PlDataGranule
S-DPS-22040	The PRONG CI shall provide a user interface to support the update of the Q/A metadata of a Data Product.	DpPrQaMonitor
S-DPS-22050	The PRONG CI shall provide an interface to support the visual display of a Data Product.	EOSVIEW
S-DPS-22060	The PRONG CI shall provide an interface to support the visual display of the algorithms used to generate a Data Product.	DpPrQaMonitor
S-DPS-22070	The PRONG CI shall provide an interface to support the visual display of the ECS Data Products used to generate a Data Product.	DpPrQaMonitor
S-DPS-22080	The PRONG CI shall provide an interface to support the visual display of the Calibration Coefficient Data used to generate a Data Product.	DpPrQaMonitor
S-DPS-22090	The PRONG CI shall provide an interface to support the visual display of the Ancillary Data Products used to generate a Data Product.	DpPrQaMonitor
S-DPS-22100	The PRONG CI shall provide an interface to support the visual display of the Status Information files associated with the generated Data Product.	DpPrQaMonitor
S-DPS-22110	The PRONG CI shall provide an interface to support the visual display of all metadata associated with the generation of a Data Product.	DpPrQaMonitor
S-DPS-22120	The PRONG CI shall support a capability to alert the operations staff of a Data Product which is being stored temporarily in the Data Server.	DpPrDataManager
S-DPS-22130	The PRONG CI shall support a capability to alert the operations staff of a Data Product which requires quality assurance activities.	DpPrQaMonitor
S-DPS-22200	The PRONG CI shall accept a Processing Information Request to request the status of a Data Processing Request.	AUTOSYS/AUTOEXPERT DpPrCotsManager DpPrScheduler
S-DPS-22210	The PRONG CI shall have the capability to provide status for a Data Processing Request.	DpPrCotsManager AUTOSYS/AUTOEXPERT PlDPRB
S-DPS-22220	The PRONG CI shall provide current DPR Processing State data as part of the status information of a Data Processing Request.	DpPrCotsManager PlDPRB DpPrScheduler

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-22230	The PRONG CI shall provide current queue position as part of the status information of a Data Processing Request.	DpPrCotsManager DpPrScheduler PlDPRB
S-DPS-22240	The PRONG CI shall provide status information for the PGE associated with the Data Processing Request if the PGE is currently executing.	DpPrScheduler PlDPRB AUTOSYS/AUTOEXPERT
S-DPS-22250	The PRONG CI shall have the capability of receiving the Status Information File of an executing PGE from the Data Processing Subsystem resource executing the PGE.	AUTOSYS/AUTOEXPERT
S-DPS-22400	The PRONG CI shall accept Operations Commands to suspend, resume, or cancel the processing of a Data Processing Request.	AUTOSYS/AUTOEXPERT DpPrCotsManager DpPrScheduler
S-DPS-22410	The PRONG CI shall accept an Operations Command to modify a Data Processing Request.	AUTOSYS/AUTOEXPERT DpPrScheduler PlDPRB
S-DPS-22470	The PRONG CI shall update the DPR Processing State to cancel when the Operation Command specifies cancellation.	DpPrCotsManager DpPrScheduler PlDPRB
S-DPS-22480	The PRONG CI shall terminate data staging if in progress when the Data Processing Request is canceled.	PlDPRB DpPrScheduler DpPrCotsManager
S-DPS-22490	The PRONG CI shall deallocate the memory which was allocated to the executing PGE associated with the canceled Data Processing Request.	AUTOSYS/AUTOEXPERT DpPrScheduler DpPrCotsManager
S-DPS-22500	The PRONG CI shall deallocate the disk storage which was allocated to the executing PGE associated with the canceled Data Processing Request.	DpPrScheduler PlDPRB DpPrCotsManager
S-DPS-22510	The PRONG CI shall deallocate the CPU which was allocated to the executing PGE associated with the canceled Data Processing Request.	PlDPRB DpPrScheduler DpPrCotsManager
S-DPS-22520	The PRONG CI shall terminate the execution of the PGE if in progress when the Data Processing Request is canceled.	PlDPRB DpPrScheduler DpPrCotsManager
S-DPS-22530	The PRONG CI shall terminate data destaging if in progress when the Data Processing is canceled.	AUTOSYS/AUTOEXPERT PlDPRB DpPrScheduler
S-DPS-22540	The PRONG CI shall send a Complete Notification Status message to the source of the Data Processing Request when the Data Processing Request is canceled.	DpPrScheduler AUTOSYS/AUTOEXPERT PlDPRB

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-22560	The PRONG CI shall update the Processing State to suspend when the Operation Command specifies suspension.	DpPrCotsManager
S-DPS-22590	The PRONG CI shall not perform any further processing on a Data Processing Request which is suspended.	DpPrCotsManager
S-DPS-22600	The PRONG CI shall reject the Operation Command which specified a resume if the Data Processing Request was not suspended.	DpPrCotsManager
S-DPS-22611	When the resume Operation Command is used to resume processing for a Data Processing Request, the PRONG CI shall update the Processing State to the previous Processing State before the suspension.	DpPrCotsManager
S-DPS-22620	The PRONG CI shall update the Priority Information associated with the Data Processing Request with the Priority Information contained in the Operation Command which specifies modify.	DpPrScheduler PlDPRB DpPrCotsManager
S-DPS-22630	The PRONG CI shall perform queue processing for a Data Processing Request which has updated Priority Information.	AUTOSYS/AUTOEXPERT DpPrCotsManager PlDPRB
S-DPS-30300	The PRONG CI shall process the EOS-AM spacecraft ancillary data to assess the quality of onboard orbit data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. if distance from origin deviates greatly from a neighboring set of points or if magnitude of velocity deviates greatly from the neighboring set of velocities) excluding data that reflects orbit adjust maneuvers	DpPpAm1AncPacketProcessorNB DpPpAm1AncillaryPacketNB DpPpCcsdsPacketNB DpPpEphemerisDataSetNB DpPpPacketVectorNB
S-DPS-30320	The PRONG CI shall report on the quality of onboard orbit data, noting: a) the number of missing data are more than a specified limit value over a specified time interval b) the number of contiguous missing data are more than a specified value	DpPpAm1ScOaDataNB

Table A-1. Requirements Trace (18 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-30600	The PRONG CI shall process the EOS-AM spacecraft ancillary data to assess the quality of onboard attitude data contained in the EOS-AM spacecraft ancillary data to detect and note in metadata the folloowing conditions: a) missing data b) erroneous data (i.e. invalid Euler angle, invalid Euler angle rate).	DpPpPacketVectorNB DpPpAm1AncPacketProcessorNB DpPpAm1AncQaParametersNB DpPpAm1AncillaryPacketNB DpPpAttitudeDataSetNB DpPpCcsdsPacketNB
S-DPS-30610	The PRONG CI shall process the TRMM spacecraft ancillary data to assess the quality of onboard attitude data to detect and note in metadata the following conditions: a. missing data b. erroneous data (i.e. invalid Euler angle, invalid Euler angle rate)	DpPpAttitudePacket DpPpQaParameters DpPpAttitudePackets DpPpQacList DpPpAttitudeProcessingSet
S-DPS-30700	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for TRMM processing: a. Time range b. Orbit number range c. Platform	DpPrEphemerisMetadata
S-DPS-30710	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for EOS-AM processing: a) time range b) orbit number range c) platform	DpPpEphemerisDataSetNB
S-DPS-30740	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for TRMM processing.	DpPpAttitudePackets DpPrEphemerisRecord DpPrEphemRecord DpPpAttitudeProcessingSet DpPpAttitudePacket DpPrFdfProcessingSet
S-DPS-30750	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data including platform position and velocity vectors and platform attitude/ attitude rate data, in the native format of the host hardware for EOS-AM processing.	DpPpEphemerisDataSetNB DpPpAttitudeDataSetNB
S-DPS-30760	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for TRMM processing.	DpPpAttitudePacket DpPpAttitudePackets DpPpAttitudeProcessingSet DpPrEphemRecord DpPrEphemerisRecord DpPrFdfProcessingSet

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-30770	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for EOS-AM processing.	DpPpEphemerisDataSetNB DpPpAttitudeDataSetNB
S-DPS-30900	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS as header and quality parameters all contained in the same physical file as the L0 telemetry packets.	DpPpEdosPDSConstructionRecord NB DpPpEdosLevelZeroPDSNB
S-DPS-30910	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS containing header information as specified in the EDOS-ECS ICD.	DpPpEdosLevelZeroPDSNB DpPpEdosPDSConstructionRecord NB
S-DPS-30920	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS containing quality information as specified in the EDOS-ECS ICD.	DpPpEdosPDSConstructionRecord NB DpPpEdosLevelZeroPDSNB
S-DPS-31010	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 header in the native format of the host hardware.	DpPpEdosPDSConstructionRecord NB DpPpEdosLevelZeroPDSNB
S-DPS-31020	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with SDPF-generated L0 data a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file	DpPpLevelZeroData DpPpPreprocessingData DpPpSdpfLevelZeroDatasetFile DpPpSdpfLevelZeroProductionData DpPpSdpfLevelZeroSfduFile

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-31030	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with EDOS-generated L0 data: a. Actual start time of staged L0 data b. Actual end time of staged L0 data c. Number of physical L0 data files staged d. Start time of L0 data as requested by EOS investigators through the planning/processing system e. End time of L0 data as requested by EOS investigators through the planning/processing system f. APID of each L0 data file g. Orbit number or orbit number range of the staged L0 data file	DpPpEdosLevelZeroPDSNB DpPpEdosPDSConstructionRecord NB
S-DPS-31620	The PRONG CI shall be able to stage the following GFE static data sets required for PGE execution for access by the SDP Toolkit: a. Digital terrain map data sets b. Land/Sea data sets c. Digital political map data sets	DpPrDataManager
S-DPS-31700	The PRONG CI shall extract metadata attributes for external Ancillary Data sets, in addition to metadata extraction by the INGST CI.	DpPpPreprocessingData
S-DPS-40010	The AITTL CI shall have the capability to receive a Science Software Delivery from the SCF electronically via the network.	INGST
S-DPS-40020	The AITTL CI shall have the capability to receive a Science Software Delivery from the Science Data Server.	SDSRV
S-DPS-40030	The AITTL CI shall provide the operations staff with the capability to register a Subscription with the Data Server to be notified when a new Science Software Delivery is received.	SDSRV
S-DPS-40040	The AITTL CI shall provide the operations staff with the capability to request transfer of the Science Software Delivery files from the Data Server to the local I&T area.	SDSRV
S-DPS-40100	The AITTL CI shall provide the operations staff with the capability to display Science Software documentation stored in any of the following formats: a) PostScript, b) ASCII, c) Hypertext Markup Language (HTML), d) Microsoft Word, e) WordPerfect, f) Adobe Acrobat Portable Document Format (PDF).	Ghostview SoftWindows Adobe Acrobat

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-40110	The AITTL CI shall provide the operations staff with the capability to print Science Software documentation stored in any of the following formats: a) PostScript, b) ASCII, c) Hypertext Markup Language (HTML), d) Microsoft Word, e) WordPerfect, f) Adobe Acrobat Portable Document Format (PDF).	Adobe Acrobat SoftWindows Ghostview
S-DPS-40200	The AITTL CI shall have the capability to verify that Science Software source code written in C complies with the ANSI standard specification for C.	AITHW
S-DPS-40210	The AITTL CI shall have the capability to verify that Science Software source code written in FORTRAN77 complies with the ANSI standard specification for FORTRAN77.	AITHW
S-DPS-40230	The AITTL CI shall have the capability to verify that Science Software source code written in FORTRAN 90 complies with the ANSI standard specification for FORTRAN 90.	AITHW
S-DPS-40250	The AITTL CI shall have the capability to verify that Science Software source code written in Ada complies with the military specification MIL-STD-1815-A.	AITHW
S-DPS-40260	The AITTL CI shall have the capability to verify that Science Software source code is POSIX-compliant.	Sparcworks CODEVision
S-DPS-40280	The AITTL CI shall have the capability to verify that Science Software source code and Science Software scripts follow the following SDP Toolkit usage requirements (from 194-809-SD4-001, PGS Toolkit Users Guide for the ECS Project):a. Source code does not make any prohibited POSIX function callsb. The Status Message Text Files have the correct format	DpAtMgrProhibFuncListData DpAtMgrCheckProhibFuncGui DpAtMgrCheckProhibFuncCom
S-DPS-40295	The AITTL CI shall provide standards checking capabilities, including, but not limited to: a. Flagging whenever a bit operation is used on signed numbers. (C only)b. Flagging argument list mismatches (type and number of arguments).	Sparcworks CODEVision
S-DPS-40320	The AITTL CI shall have the capability to verify that Science Software source code includes headers as specified in 423-16-01, Data Production Software and Science Computing Facility (SCF) Standards and Guidelines.	DpAtProcGui

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-40340	The AITTL CI shall have the capability to generate report files describing the results of standards checking.	DpAtMgrLogData
S-DPS-40400	The AITTL CI shall have the capability to determine if the Science Software contains memory leaks.	AITHW
S-DPS-40405	The AITTL CI shall have the capability to determine if the Science Software contains out of bounds indexing.	AITHW
S-DPS-40430	The AITTL CI shall have the capability to generate report files describing the results of code analysis.	DpAtMgrLogData
S-DPS-40700	The data visualization capability of the AITTL CI shall include the capability to display data in hexadecimal, octal, decimal, or ASCII form.	Interactive Data Language
S-DPS-40710	The data visualization capability of the AITTL CI shall include the capability to display data as a two- or three-dimensional image.	Interactive Data Language
S-DPS-40720	The data visualization capability of the AITTL CI shall include the capability to display data as a two- or three-dimensional plot.	Interactive Data Language
S-DPS-40730	The data visualization capability of the AITTL CI shall include the capability to difference data and to display the differences as a two- or three-dimensional image or plot.	Interactive Data Language
S-DPS-40740	The data visualization capability of the AITTL CI shall include the capability to produce and play a "movie loop" of data in two- or three-dimensional image or plot form.	Interactive Data Language
S-DPS-40750	The data visualization capability of the AITTL CI shall include the capability to display an arbitrary two-dimensional slice of a three-dimensional image or plot.	Interactive Data Language
S-DPS-40760	The data visualization capability of the AITTL CI shall include the capability to rotate a three-dimensional image or plot about an arbitrary axis.	Interactive Data Language
S-DPS-40770	The data visualization capability of the AITTL CI shall include providing the user with the option to specify the color table for new or existing image displays.	Interactive Data Language

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-40780	The data visualization capability of the AITTL CI shall include providing the user with the option to specify the axis limits for new or existing plot displays.	Interactive Data Language
S-DPS-40790	The data visualization capability of the AITTL CI shall include providing the operations staff with the option to specify the parameter assigned to each axis in new or existing plot or image displays.	Interactive Data Language
S-DPS-40800	The data visualization capability of the AITTL CI shall include the capability to display simultaneously multiple views of the same or different data in different windows.	Interactive Data Language
S-DPS-40810	The data visualization capability of the AITTL CI shall include the capability to save any plot, image, or hex/decimal/octal/ASCII dump to a file.	Interactive Data Language
S-DPS-40820	The data visualization capability of the AITTL CI shall include feature enhancement capabilities, including but not limited to (1) histogram equalization and (2) edge enhancement.	Interactive Data Language
S-DPS-40830	The data visualization capability of the AITTL CI shall include the capability to read ASCII, binary, or HDF files.	EOSVIEW Interactive Data Language
S-DPS-40835	The AITTL CI shall conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	AITTL
S-DPS-40840	The data visualization capability of the AITTL CI shall include the capability to allow the operations staff to specify a custom input data format.	Interactive Data Language
S-DPS-40900	The AITTL CI shall have the capability to find all differences between two data files which are greater than some specified absolute threshold.	DpAtMgrBinaryFileEnvironmentGui
S-DPS-40910	The AITTL CI shall have the capability to find all differences between two data files which are greater than some specified relative threshold.	DpAtMgrBinaryFileEnvironmentGui
S-DPS-40920	The AITTL CI shall have the capability to generate report files describing the results of file comparisons.	DpAtMgrBinaryFileEnvironmentGui
S-DPS-40930	The file comparison capability of the AITTL CI shall include the capability to read ASCII, binary, or HDF files.	DpAtMgrBinaryFileEnvironmentGui

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-40940	The file comparison capability of the AITTL CI shall include the capability to allow the operations staff to specify a custom data format.	DpAtMgrBinaryFileEnvironmentGui
S-DPS-41000	The AITTL CI shall have the capability to measure the CPU time of a process.	AITHW
S-DPS-41005	The AITTL CI shall have the capability to measure the wall clock time of a process.	AITHW
S-DPS-41010	The AITTL CI shall have the capability to measure the CPU time of each procedure within a process.	AITHW
S-DPS-41015	The AITTL CI shall have the capability to measure the wall clock time of each procedure within a process.	AITHW
S-DPS-41020	The AITTL CI shall have the capability to measure the memory usage of a process.	AITHW
S-DPS-41030	The AITTL CI shall have the capability to measure the disk space usage of a process.	AITHW
S-DPS-41035	The AITTL CI shall have the capability to count the number of page faults for a process.	CODEVision Sparcworks
S-DPS-41040	The AITTL CI shall have the capability to count the number of I/O accesses made by a process to each of its input and output data files.	CODEVision Sparcworks
S-DPS-41050	The AITTL CI shall have the capability to generate report files discussing the results of profiling activities.	CODEVision AITHW Sparcworks
S-DPS-41100	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of Science Software Archive Packages in the Data Server.	DpAtEditSSAPFileListGuiNB
S-DPS-41110	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display the metadata for a specific Science Software Archive Package.	DpAtEditSSAPMetaDataGuiNB
S-DPS-41120	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of the files that comprise a specific Science Software Archive Package.	DpAtEditSSAPFileListGuiNB
S-DPS-41130	The AITTL CI shall provide to the operations staff, via a GUI, the capability to retrieve a copy of a specified file belonging to a specific Science Software Archive Package.	DpAtEditSSAPFileListGuiNB

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-41140	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new Science Software Archive Package to the Data Server.	DpAtSSAPGuiNB
S-DPS-41150	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add or remove a file to or from the set of files comprising a specific Science Software Archive Package.	DpAtEditSSAPFileListGuiNB
S-DPS-41160	The AITTL CI shall provide to the operations staff, via a GUI, the capability to edit the metadata for a specific Science Software Archive Package.	DpAtMgrEditSSAPMetaDataGuiNB
S-DPS-41170	The AITTL CI shall provide to the operations staff, via a GUI, the capability to remove a specific Science Software Archive Package from the Data Server.	DpAtSSAPGuiNB
S-DPS-41180	The AITTL CI shall provide to the operations staff, via a GUI, the capability to define new data types for new Products produced by an Science Software Archive Package.	DpAtPgeDataTypes
S-DPS-41190	The AITTL CI SSAP GUI for adding an Science Software Archive Package to the Data Server shall have the capability of accepting its inputs from a file.	DpAtEditSSAPFileListGuiNB
S-DPS-41200	The AITTL CI SSAP GUI for adding an Science Software Archive Package to the Data Server shall provide the operations staff with the ability (a) to restrict update access to the Data Server to authorized personnel and (b) to maintain a record of updates made.	DpAtMgrSSAPDatabaseGuiNB
S-DPS-41300	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of PGE Database Entries.	PLANG
S-DPS-41310	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a specific PGE Database Entry.	PLANG
S-DPS-41320	The AITTL CI shall provide to the operations staff, via a GUI, the capability to modify a specific PGE Database Entry.	PLANG
S-DPS-41330	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new PGE Database Entry.	PLANG

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-41340	The AITTL CI shall provide to the operations staff, via a GUI, the capability to remove a specific PGE Database Entry.	PLANG
S-DPS-41350	The AITTL CI shall provide to the operations staff, via a GUI, cut, copy, and paste capability for a PGE Database Entry.	PLANG
S-DPS-41355	The AITTL CI SSAP GUI for updating the PGE Database shall provide the operations staff with the ability (a) to restrict update access to the PGE Database to authorized personnel and (b) to maintain a record of updates made.	DpAtPGERegToolNB
S-DPS-41360	The AITTL CI SSAP GUI for updating the PGE Database shall have the capability of accepting its inputs from a file.	DpAtPgeRegTool
S-DPS-41400	The AITTL CI shall include access to a configuration management tool supplied by MSS.	MSS
S-DPS-41410	The AITTL CI shall include access to a problem tracking tool supplied by MSS.	MSS
S-DPS-41500	The AITTL CI shall provide the capability for operations staff to write reports. This capability will include: (a) word processing, (b) spreadsheet, (c) plotting, (d) drawing.	SoftWindows
S-DPS-41510	The AITTL CI shall provide templates for reports to be written by the operations staff. (NOTE: It is assumed that these templates will be developed by the Science Office.)	Ghostview SoftWindows Adobe Acrobat
S-DPS-41520	The AITTL CI shall provide the capability for operations staff to keep a running log of integration and test activities on-line.	DpAtMgrChecklistData
S-DPS-41530	The AITTL CI shall provide the capability for authorized users to examine the integration and test logs and other reports.	MgrGUI
S-DPS-41895	The AITTL CI shall provide to the operations staff the capability to retrieve a specified data file from local DAAC storage.	AITHW
S-DPS-41900	The AITTL CI shall provide to the operations staff, via a GUI, the capability to retrieve a specified data file from a specified Data Server.	DpPrAITManualIF
S-DPS-41910	The AITTL CI shall provide to the operations staff the capability to retrieve a copy of a specific Science Software Archive Package.	DpAtSSAPGuiNB

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-41920	The AITTL CI shall provide to the operations staff the capability to store a Science Software Archive Package to the Data Server.	DpAtSSAPGuiNB
S-DPS-42000	The AITTL CI shall provide the operations staff with the capability to view the metadata associated with a data file.	DpAtMgrCheckHdfFile
S-DPS-42005	The AITTL CI shall provide the operations staff with the capability to edit the metadata associated with a data file.	SDSRV
S-DPS-42010	The AITTL CI shall provide the operations staff with the capability to write the metadata associated with a data file to a report file.	DpAtMgrCheckHdfFile
S-DPS-42100	The operations staff shall place a Science Software Delivery Package in a non-public directory accessible to the hardware scheduled to be used for I&T.	Operational
S-DPS-42110	The operations staff shall read and/or review all documentation included in the Delivery Package.	Operational
S-DPS-42120	The operations staff shall perform automated checking of all source code included in the Delivery Package against established coding standards and guidelines.	Operational
S-DPS-42130	The operations staff shall perform automated checking of all scripts included in the Delivery Package against established coding standards and guidelines.	Operational
S-DPS-42140	The operations staff shall have the capability to perform static analyses of source code for (at a minimum) argument mismatches and variables set before used.	Operational
S-DPS-42150	The operations staff shall have the capability to examine all test data and expected test results files included in the Delivery Package to verify completeness and correct format.	Operational
S-DPS-42160	The operations staff shall have the capability to examine all coefficient files included in the Delivery Package to verify completeness and correct format.	Operational
S-DPS-42170	The operations staff shall have the capability to compile all FORTRAN77, FORTRAN 90 and C source code included in the Delivery Package.	Operational
S-DPS-42175	The operations staff shall have the capability to compile all Ada source code included in the Delivery Package for CERES.	Operational

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-42180	The operations staff shall check source code, coefficient files, test plans, test data, expected test results and other documentation into the Configuration Management tool.	Operational
S-DPS-42190	The operations staff (and others who are specifically authorized) shall have the capability to check out source code, coefficient files, test plans, test data, expected test results and other documentation from the Configuration Management tool.	Operational
S-DPS-42200	Whenever a Science Software Delivery is received by the AITTL CI directly from the SCF via the network, the operations staff shall notify the SCF that the delivery has been received successfully.	Operational
S-DPS-42300	The operations staff shall have the capability to link FORTRAN77, FORTRAN 90 and C object code with the SCF version of the SDP Toolkit.	Operational
S-DPS-42305	The operations staff shall have the capability to link Ada object code for CERES with the SCF version of the SDP Toolkit.	Operational
S-DPS-42310	The operations staff shall link FORTRAN77, FORTRAN 90 and C object code with the DAAC version of the SDP Toolkit.	Operational
S-DPS-42315	The operations staff shall link Ada object code for CERES with the DAAC version of the SDP Toolkit.	Operational
S-DPS-42320	The operations staff shall have the capability to link FORTRAN77, FORTRAN 90 and C object code with other libraries.	Operational
S-DPS-42325	The operations staff shall have the capability to link Ada object code for CERES with other libraries.	Operational
S-DPS-42330	The operations staff shall have the capability to run binary executables without impacting other ongoing DAAC activities.	Operational
S-DPS-42340	The operations staff shall have the capability to perform dynamic analyses of source code for (at a minimum) memory leaks, out of bounds indexing, and distribution of resource demands.	Operational
S-DPS-42350	The operations staff shall have the capability to execute perl, C shell or Bourne shell scripts.	Operational

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L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-42360	The operations staff shall have the capability of determining the computing resources utilized by an execution of a PGE; viz., PGE CPU time, system CPU time, elapsed time, percent elapsed time, shared memory use, maximum memory used, number of page faults, number of swaps, number of block input operations, and number of block output operations.	Operational
S-DPS-42365	The operations staff shall have the capability to use MSS profiling capabilities to determine the computing resources utilized by the execution of a chain of PGEs.	Operational
S-DPS-42370	The operations staff shall collect during I&T the performance and resource utilization information needed for entry into or update of the PGE data base.	Operational
S-DPS-42500	The operations staff shall execute the Test Plans included in the Delivery Package.	Operational
S-DPS-42510	The operations staff shall have the capability of displaying Data Products.	Operational
S-DPS-42520	The operations staff shall have the capability of displaying data in intermediate files used to generate a Data Product.	Operational
S-DPS-42530	The operations staff shall have the capability of displaying data in input files used to generate a Data Product.	Operational
S-DPS-42540	The operations staff shall have the capability of displaying data in coefficient files used to generate a Data Product.	Operational
S-DPS-42550	The operations staff shall have the capability of displaying the Ancillary Data used to generate a Data Product .	Operational
S-DPS-42560	The operations staff shall have the capability of viewing the Status Information files associated with the generated Data Product.	Operational
S-DPS-42570	The operations staff shall have the capability of displaying all metadata associated with the generation of a Data Product.	Operational
S-DPS-42580	The operations staff shall have the capability of comparing data in two coefficient files.	Operational
S-DPS-42590	The operations staff shall have the capability of comparing two Data Product files.	Operational
S-DPS-42600	The operations staff shall have the capability of comparing data in two intermediate files.	Operational

Table A-1. Requirements Trace (30 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-42610	The operations staff shall enter new PGEs into the PGE Database, along with their performance and resource utilization information.	Operational
S-DPS-42620	The operations staff shall update information the PGE Database as necessary to reflect changes in performance and resource utilization resulting from a modification to a PGE.	Operational
S-DPS-42630	The operations staff shall have the capability of run PGEs in a parallel test or for a commissioning period, utilizing the Planning and Processing Subsystems and the Product output flagged as "test".	Operational
S-DPS-42640	The operations staff shall have the capability to send the test results to the SCF for analysis.	Operational
S-DPS-42650	The operations staff shall have the capability to write ad hoc test tools using the perl, C shell or Bourne shell script languages.	Operational
S-DPS-42660	The operations staff shall have the capability to write ad hoc test tools using the FORTRAN77, FORTRAN 90 and C programming languages.	Operational
S-DPS-42700	The operations staff shall have the capability to enter and track discrepancy reports related to AI&T.	Operational
S-DPS-42710	The operations staff shall have the capability to send to and receive email messages from Science Software Developer staff and ECS staff.	Operational
S-DPS-42720	The operations staff shall have the capability to engage in teleconferences with Science Software Developer staff and ECS staff.	Operational
S-DPS-42740	The operations staff shall reports on the status of I&T-related discrepancy reports.	Operational
S-DPS-42750	The operations staff shall have the capability of record each step performed during I&T, the results and actions initiated, if any.	Operational
S-DPS-42760	The operations staff shall report on the status of the I&T activities each PGE.	Operational
S-DPS-42770	The operations staff shall have the capability of writing an Inspection Report for each Science Software Delivery.	Operational
S-DPS-42780	The operations staff shall have the capability of writing an Integration Report for each Science Software Delivery.	Operational

Table A-1. Requirements Trace (31 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-42790	The operations staff shall have the capability of writing an Acceptance Test Report for each Science Software Delivery.	Operational
S-DPS-60010	The SPRHW CI shall support the capability to manage, queue, and execute processes on the processing resources at each DAAC site.	SPRHW
S-DPS-60020	The SPRHW CI shall support the capability to stage and destage data.	SPRHW
S-DPS-60050	The SPRHW CI shall contain and/or provide access to staging (working storage), I/O and processing resources necessary to perform routine processing.	SPRHW
S-DPS-60060	The SPRHW CI product generation computer(s) shall have a Fail-Soft capability.	SPRHW
S-DPS-60080	The SPRHW CI shall have provision for Initialization, Recovery, and an orderly shutdown.	SPRHW
S-DPS-60090	The SPRHW CI shall support startup and initialization to be completed within 30 minutes (TBR)	SPRHW
S-DPS-60100	The SPRHW CI shall support shutdown to be completed within 30 minutes (TBR).	SPRHW
S-DPS-60110	The SPRHW CI shall have a fault detection/fault isolation capability of major HWCI component failures without interfering with operations.	SPRHW
S-DPS-60120	The SPRHW CI shall have a status monitoring capability.	SPRHW
S-DPS-60135	The SPRHW CI design and implementation shall have the flexibility to accommodate Science Processing expansion up to a factor of 3 in its capacity with no changes in its design and up to a factor of 10 without major changes to its design.	SPRHW
S-DPS-60160	The SPRHW CI shall support collection and maintenance for Fault Management, configuration, performance, accountability, and security of Processing CI hardware resources.	SPRHW

Table A-1. Requirements Trace (32 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-60230	The SPRHW CI shall provide a phased capacity to support: a. for pre-launch AI&T at launch minus 2 years: 0.3 X, where X is defined as the at-launch processing estimate b. for pre-launch AI&T and System I&T at-launch minus 1 year: 1.2 X, where X is defined as the at-launch processing estimate c. for post-launch AIT, standard processing, and reprocessing, starting at launch plus 1 year: 2.2 X, where X is defined as the standard processing estimate for that period d. for post-launch AIT, standard processing, and reprocessing, starting at launch plus 2 years: 4.2 X, where X is defined as the standard processing estimate for that period.	SPRHW
S-DPS-60240	The SPRHW CI shall support a total processing requirement as derived from Table E-1 of Appendix E of the current version of 304-CD-002 for Release A and Appendix E of the current version of 304-CD-005 for Release B.	SPRHW
S-DPS-60241	The SPRHW CI processing time shall not exceed the overall end-to-end turnaround time of 24 hours minus the processing time of other subsystems involved in instrument product processing.	SPRHW
S-DPS-60242	The SPRHW CI processing shall be sized in accordance with processing requirements derived from Appendix E (Section E.2 Table E-2) of the current version of 304-CD-005.	SPRHW
S-DPS-60250	The SPRHW CI shall be able to support a data volume (GB/Day) as derived from Table E-1 of Appendix E of the current version of 304-CD-002 for Release A and Appendix E of the current version of 304-CD-005 for Release B.	SPRHW
S-DPS-60251	The SPRHW CI storage capacity shall be sized in accordance with the volume requirement derived from Appendix E (Section E.2 Table E-2) of the current version of 304-CD-005.	SPRHW
S-DPS-60260	The SPRHW CI processing shall be sized in accordance with DAO processing requirements derived from Appendix E (Section E.1 Table E-1) of the current version of 304-CD-005.	SPRHW

Table A-1. Requirements Trace (33 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-60270	The SPRHW CI storage capacity shall be sized in accordance with the DAO data volume requirement derived from Appendix E (Section E.1 Table E-1) of the current version of 304-CD-005.	SPRHW
S-DPS-60330	The SPRHW CI shall have the capacity to support I/O to temporary and intermediate storage or multiple passes over input Products as required by individual science software.	SPRHW
S-DPS-60350	The SPRHW CI shall generate Level 1 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60351	The SPRHW CI shall contribute to the generation of Level 1 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60360	The SPRHW CI shall generate Level 2 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60361	The SPRHW CI shall contribute to the generation of Level 2 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60370	The SPRHW CI shall generate Level 3 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60371	The SPRHW CI shall contribute to the generation of Level 3 Standard Products within 24 hours after processing is initiated.	SPRHW
S-DPS-60380	The SPRHW CI shall generate and make available to the users Level 4 Standard Products within one week after the availability to ECS of all necessary Level 3 and other input data sets.	SPRHW
S-DPS-60410	The SPRHW CI shall be capable of operating in a 24 hour per day, 7 days a week mode.	SPRHW
S-DPS-60450	Each computer providing product generation capability shall have an operational availability of 0.95 at a minimum.	SPRHW
S-DPS-60480	The SPRHW CI shall have provision for the AIT science processor to be a backup to the production science processor in the event of a failure.	SPRHW
S-DPS-60490	The SPRHW CI shall be capable of supporting system development without impact to normal operations.	SPRHW

Table A-1. Requirements Trace (34 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-60500	The SPRHW CI shall be capable of supporting science software test without impact to normal operations.	SPRHW
S-DPS-60520	The SPRHW CI elements and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	SPRHW
S-DPS-60525	SPRHW CI functions shall have an operational availability of .96 as a minimum and Mean Down Time of < 4 hours during times of staffed operation.	SPRHW
S-DPS-60535	The maximum down time of the SPRHW CI shall not exceed twice the required MDT in 99 percent of failure occurrences.	SPRHW
S-DPS-60610	The SPRHW CI platforms shall have provision for interfacing with one or more Local Area Networks (LANs).	SPRHW
S-DPS-60612	The SPRHW CI platforms shall have provision for interfacing with Data Server.	SPRHW
S-DPS-60615	The SPRHW CI platforms shall have provision for interfacing with Ingest	SPRHW
S-DPS-60617	The SPRHW CI platforms shall have provision for interfacing with Planning.	SPRHW
S-DPS-60710	The electrical power requirements for SPRHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2)	SPRHW
S-DPS-60740	The air conditioning requirements for the SPRHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	SPRHW
S-DPS-60750	The grounding requirements for SPRHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SPRHW
S-DPS-60760	The fire alarm requirements for SPRHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SPRHW
S-DPS-60770	The acoustical requirements for SPRHW CI equipment shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SPRHW
S-DPS-60780	The physical interface requirements between SPRHW CI equipment and the facility shall be in accordance with ECS Facilities Plan (DID 302/DV2).	SPRHW

Table A-1. Requirements Trace (35 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-60790	The footprint size and the physical layout of SPRHW CI equipment shall be in accordance with the and ECS Facilities Plan (DID 302/DV2).	SPRHW
S-DPS-60910	The SPRHW CI shall support test activities throughout the development phase.	SPRHW
S-DPS-60920	The following testing shall be performed on the SPRHW CI: a. Unit testing b. Subsystem testing c. Integration & Testing d. End-to- End testing	SPRHW
S-DPS-60930	The SPRHW CI shall provide test tools as designated in the SDPS Test Tool Matrix.	SPRHW
S-DPS-60940	The SPRHW CI shall be capable of simultaneously supporting the Independent Verification & Validation (IV&V) activities and the ECS development activities, both before and after flight operations begin.	SPRHW
S-DPS-60950	The SPRHW CI shall be capable of supporting end-to-end test and verification activities of the EOS program including during the pre-launch, spacecraft verification, and instrument verification phases.	SPRHW
S-DPS-60960	The SPRHW CI shall support end-to-end EOS system testing and fault isolation.	SPRHW
S-DPS-60970	The SPRHW CI shall be capable of being monitored during testing.	SPRHW
S-DPS-61040	The SPRHW CI computer platform shall provide a hard media device with a capacity of TBD GB for software and system maintenance and upgrade support.	SPRHW
S-DPS-61045	The SPRHW CI shall provide local consoles for maintenance and operation.	SPRHW
S-DPS-61110	The operating system for each Unix platform in the SPRHW CI shall conform to the POSIX.2 standard.	SPRHW
S-DPS-61120	The SPRHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	SPRHW
S-DPS-61125	The SPRHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm, gtar, and gmake.	SPRHW

Table A-1. Requirements Trace (36 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-61130	The SPRHW CI POSIX.2 compliant platform shall have the following POSIX.2 user Portability Utilities installed at a minimum: man, vi.	SPRHW
S-DPS-61140	The SPRHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.	SPRHW
S-DPS-61150	The SPRHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installedat a minimum: lex, yacc.	SPRHW
S-DPS-61160	The SPRHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	SPRHW
S-DPS-61170	The SPRHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.	SPRHW
S-DPS-61171	The SPRHW CI shall have provision for a dynamic analyzer to support the capability to check Science Software source code for memory leaks.	SPRHW
S-DPS-61172	The SPRHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages:a. Cb. C++c. FORTRAN 77d. FORTRAN 90	SPRHW
S-DPS-61173	Each development environment associated with the POSIX.2 compliant platform in the SPRHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.	SPRHW
S-DPS-61174	Each development environment associated with the POSIX.2 compliant platform in the SPRHW CI shall have the capability to compile and link source code containing extensions specified in the Data Production S/W and SCF Standards and Guidelines.	SPRHW
S-DPS-61175	Each development environment associated with the POSIX.2 compliant platform in the SPRHW CI shall have an interactive source level debugger for ECS supported languages.	SPRHW
S-DPS-61177	The SPRHW CI POSIX.2 compliant platform supporting AI&T of CERES S/W shall have installed an ADA development environment.	SPRHW

Table A-1. Requirements Trace (37 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-70010	The AITHW CI shall provide hardware resources to operations staff for the monitor and control of Science Software Integration and Test (AI&T) on SPRHW CI processing resources.	AITHW
S-DPS-70030	The AITHW CI shall provide hardware resources to operations staff for the monitor and control of Science Software configuration management.	AITHW
S-DPS-70050	The Algorithm Integration and Test HWCI design and implementation shall have the flexibility to accommodate Algorithm Integration and Test expansion up to a factor of 3 in its capacity with no changes in its design and up to a factor of 10 without major changes to its design.	AITHW
S-DPS-70060	The AITHW CI shall have provision for Initialization, Recovery, and an orderly shutdown.	AITHW
S-DPS-70070	The AITHW CI shall have a status monitoring capability.	AITHW
S-DPS-70080	AITHW CI functions shall have an operational availability of .96 as a minimum and Mean Down Time of < 4 hours during times of staffed operation.	AITHW
S-DPS-70085	The AITHW CI elements and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	AITHW
S-DPS-70090	The maximum down time of the AITHW CI shall not exceed twice the required MDT in 99 percent of failure occurrences.	AITHW
S-DPS-70110	The operating system for each UNIX platform in the AITHW CI shall conform to the POSIX.2 standard.	AITHW
S-DPS-70120	The AITHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	AITHW
S-DPS-70130	The AITHW CI POSIX.2 compliant platform ishall have the following POSIX.2 User Portability Utilities installed at a minmum: man, vi.	AITHW

Table A-1. Requirements Trace (38 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-70140	The AITHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.	AITHW
S-DPS-70150	The AITHW CI POSIX.2 compliant platform shall have the following POSIX.2 C-Language Development Utilities installed at a minimum: lex, yacc.	AITHW
S-DPS-70160	The AITHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	AITHW
S-DPS-70180	The AITHW CI shall have provision for a dynamic analyzer to support the capability to check Science Software source code for memory leaks.	AITHW
S-DPS-70183	The AITHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.	AITHW
S-DPS-70190	The AITHW CI POSIX.2 compliant platform shall have installed one or more development environment supporting the following languages:a. Cb. C++c. FORTRAN 77d. FORTRAN 90	AITHW
S-DPS-70220	Each development environment associated with the POSIX.2 compliant platform in the AITHW CI shall have the capability to compile and link strictly conformant POSIX-compliant source code.	AITHW
S-DPS-70230	Each development environment associated with the POSIX.2 compliant platform in the AITHW CI shall have the capability to compile and link source code containing extensions specified in the Data Production S/W and SCF Standards and Guidelines.	AITHW
S-DPS-70240	Each development environment associated with the POSIX.2 compliant platform in the AITHW CI shall have an interactive source level debugger for ECS supported languages.	AITHW
S-DPS-70250	Each development environment associated with the POSIX.2 compliant platform in the AITHW CI shall have a screen capture utility.	AITHW

Table A-1. Requirements Trace (39 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-70260	The AITHW CI shall include a set of profiling tools, with the capability to measure the average and maximum of the following:a. CPU timeb. memory usagec. disk space usage of a process	AITHW
S-DPS-70270	The AITHW CI profiling tools shall be accessible via an API (application program interface).	AITHW
S-DPS-70280	The AITHW CI profiling tools shall be accessible via a GUI (graphical user interface).	AITHW
S-DPS-70310	The AITHW CI platforms shall have provision for interfacing with one or more Local Area Networks (LANs).	AITHW
S-DPS-70710	The electrical power requirements for AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70740	The air conditioning requirements for the AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70750	The grounding requirements for AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70760	The fire alarm requirements for AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70770	The acoustical requirements for AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70780	The physical interface requirements between AITHW CI equipment and the facility shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-70790	The footprint size and the physical layout of AITHW CI equipment shall be in accordance with the ECS Facilities Plan (DID 302/DV2).	AITHW
S-DPS-80010	The AQAHW CI shall provide for hardware resources to support DAAC operations staff performing routine QA of Product data.	AQAHW
S-DPS-80011	The AQAHW CI functions shall have an operational availability of .96 as a minimum and a mean down time of <4 hours during times of staffed operation.	AQAHW

Table A-1. Requirements Trace (40 of 40)

L4 Rqmt ID	L4 Requirement Text	Object Class, CSC, or CI
S-DPS-80020	The AQAHW CI elements and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	AQAHW
S-DPS-80025	The maximum down time of the AQAHW CI shall not exceed twice the required MDT in 99 percent of failure occurrences.	AQAHW
S-DPS-80110	The operating system for each UNIX platform in the AQAHW CI shall conform to the POSIX.2 standard.	AQAHW
S-DPS-80120	The AQAHW CI POSIX.2 compliant platform shall have the following utilities installed at a minimum: perl, emacs, gzip, tar, imake, prof, gprof, nm.	AQAHW
S-DPS-80130	The AQAHW CI POSIX.2 compliant platform ishall have the following POSIX.2 User Portability Utilities installed at a minmum: man, vi.	AQAHW
S-DPS-80140	The AQAHW CI POSIX.2 compliant platform shall have the following POSIX.2 Software Development Utilities installed at a minimum: make.	AQAHW
S-DPS-80150	The AQAHW CI POSIX.2 compliant platform shall have the following Unix shells installed at a minimum: C shell, Bourne shell, Korn shell.	AQAHW
S-DPS-80155	The AQAHW CI POSIX.2 compliant platform shall have on-line documentation or printed documentation for each installed tool.	AQAHW

Table A-2 identifies proposed/pending requirements changes which have not been approved and/ or were not yet in the RELB_CDR_030196 version of the requirements database.

Table A-2. Intended Changes to CDR Requirements Baseline (1 of 2)

L4 Rqmt ID	L4 Requirement Text Intended Change	Reason for Change	Object Class, CSC, or CI
S-DPS-20190	The PRONG CI shall have the capability to modify the configuration settings of the Data Processing subsystem Hardware resources.	Clarification	PRONG
~~S-DPS-20191~~	~~The PRONG CI shall have the capability to modify the configuration settings of the Data Processing subsystem Hardware resources.~~	Replaced by S-DPS-20191, above.	PRONG
~~S-DPS-20200~~	~~The PRONG CI shall provide Configuration Management data to the MSS using a MSS provided Configuration Management API.~~	This interface no longer exists.	PRONG
S-DPS-20691	The PRONG CI shall base the staging of input data on the predicted PGE executionstart time and the estimated staging time.~~begin staging data at a time far enough in advance to complete staging of input data prior the predicted start of PGE execution.~~	Clarification.	DpPrJobB DpPrEventManagerB
~~S-DPS-20692~~	~~The PRONG CI shall not begin staging data too far in advance of PGE execution in such a way that unnecessarily utilizes disk space.~~	Un-testable requirement, not needed.	AUTOSYS/AUTOEXPERT DpPrJobB
~~S-DPS-20693~~	~~The PRONG CI input data staging shall avoid the creation of deadlock situations.~~	Un-testable requirement, not needed.	AUTOSYS/AUTOEXPERT DpPrJobB
S-DPS-20695	The PRONG CI shall delete the staged input data ~~the staged data~~ if the DPR that initiated the ~~input data~~ staging is cancelled and no other DPR needs it.	Clarification.	PlDPRB DpPrScheduler DpPrCotsManager
S-DPS-20696	The PRONG CI shall complete the process of staging the input data ~~staging~~ and defer ~~suspend~~ the execution of the PGE ~~PGE job~~ if the suspend command is received while the data is being staged.~~at the time of data staging~~.	Clarification.	AUTOSYS/AUTOEXPERT PlDPRB DpPrScheduler DpPrJobB

Table A-2. Intended Changes to CDR Requirements Baseline (2 of 2)

L4 Rqmt ID	L4 Requirement Text Intended Change	Reason for Change	Object Class, CSC, or CI
New	The PRONG CI shall be capable of checking product specific metadata values of output data granules against a predefined range of values.	Perform non-science QA	
~~S-DPS-31700~~	~~The PRONG CI shall extract metadata attributes for external Ancillary Data sets, in addition to metadata extraction by the INGST CI.~~	INGST will perform this function.	DpPpPreprocessingData
~~S-DPS-41180~~	~~The AITTL CI shall provide to the operations staff, via a GUI, the capability to define new data types for new Products produced by an Science Software Archive Package.~~	This capability resides in the Data Server.	DpAtPgeDataTypes
S-DPS-41200	The AITTL CI ~~SSAP GUI for adding an Science Software Archive Package to the Data Server~~ shall provide the operations staff with the ability (a) to restrict update access to the Data Server to authorized personnel and (b) to maintain a record of updates made.	Clarification	DpAtMgrSSAPDatabaseGuiNB
S-DPS-41355	The AITTL ~~CI SSAP GUI for updating the PGE Database~~ shall provide the operations staff with the ability (a) to restrict update access to the PGE Database to authorized personnel and (b) to maintain a record of updates made.	Clarification	DpAtPGERegToolNB
S-DPS-41360	The AITTL CI ~~SSAP GUI for updating the PGE Database~~ shall have the capability of accepting its inputs from a file.	Clarification	DpAtPgeRegTool