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WORK PRODUCT REPORT

Title of Report:	PRIDE Software Development Lifecycle Analysis
Contractor:	Lockheed Martin
Contract Number:	600-99-34628
Task Title:	Technical Support for Enterprise Support, Architecture, and Engineering
Task Number:	6-200
Work Order Title:	Office of Systems Enterprise Technology Support
Work Order No.:	6-200.01
Work Product No.:	1-5b
Date Submitted:	October 8, 2004
Submitted By:	William G. Oster, Sunil Fotedar

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Software Development Lifecycle Documentation Inconsistency Report

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PREPARED BY: LOCKHEED MARTIN

OCTOBER 8, 2004

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1.0 Introduction

This report is prepared for the Social Security Administration (SSA) Systems Process Improvement (SPI) Branch. It identifies software project management inconsistencies between the Intranet-based Project Resource Guide (PRIDE) Software Development Lifecycle (SDLC) phase-specific overview flowcharts and corresponding SDLC phase-specific checklists. It then recommends options to improve these SDLC models.

1.1 SDLC Models and Supporting Documentation

An SDLC model is made up of three types of documentation:

1. Phase-specific checklists,
2. Phase-specific overview flowcharts, and
3. Microsoft Project (MSP) SDLC model-specific templates.

There are three SDLC model-specific templates currently available to software program managers, one for each lifecycle model:

1. Standard template,
2. Collaboration template, and
3. Internet template.

1.2 SDLC Phase-Specific Checklists

SDLC phase-specific checklists identify task, activity, and work product requirements that should be included on SDLC model-specific templates on a one-to-one basis. When necessary, tasks, activities, and work products may be tailored to meet project needs in accordance with SSA Project Tailoring Guidelines.

See Figure 1 below:

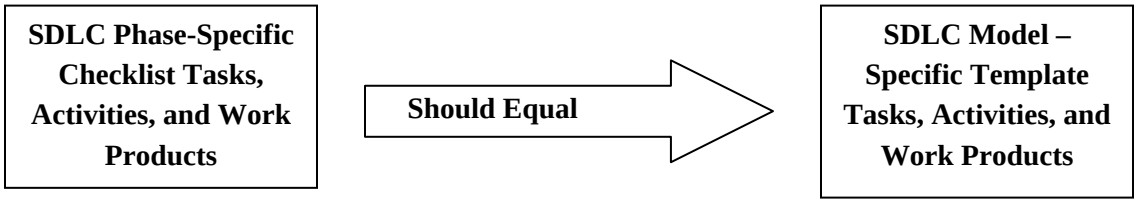


Figure 1: SDLC Model-Specific Checklists

1.3 SDLC Phase-Specific Overview Flowcharts

SDLC phase-specific overview flowcharts identify software project management requirements that should correspond to SDLC phase-specific checklist requirements and SDLC project model templates on a one-to-one basis. Phase-specific flowcharts more easily depict decision making points in a project's lifecycle and should be used in conjunction with phase-specific checklists that do not indicate decision gates.

When necessary, overview flowchart activities and work products may be tailored to meet project needs in accordance with SSA Project Tailoring Guidelines. See Figure 2 for details.

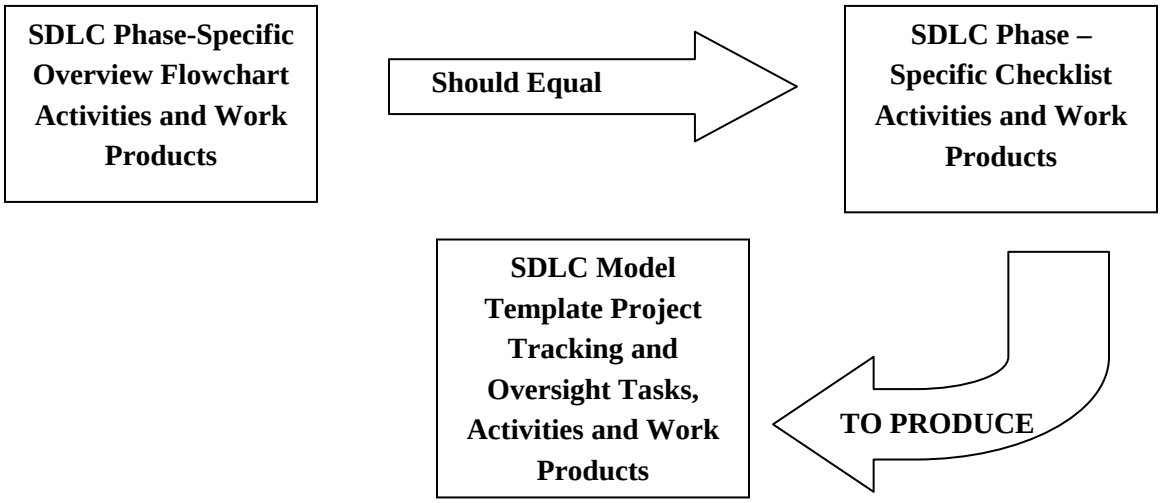


Figure 2: SDLC Phase-Specific Overview Flowcharts

1.4 SDLC Model-Specific Templates

SDLC model-specific templates are used to provide project tracking and oversight capabilities during each software development lifecycle phase. All task, activity, and work product requirements identified on SDLC phase-specific checklists should be considered when creating an SDLC model-specific template. PRIDE templates may be tailored in accordance with SSA Project Tailoring Guidelines to meet project tracking and oversight needs.

1.5 Tailored SDLC Templates

Individual projects may be tailored based on complexity and end-user requirements as depicted below in Figure 3:

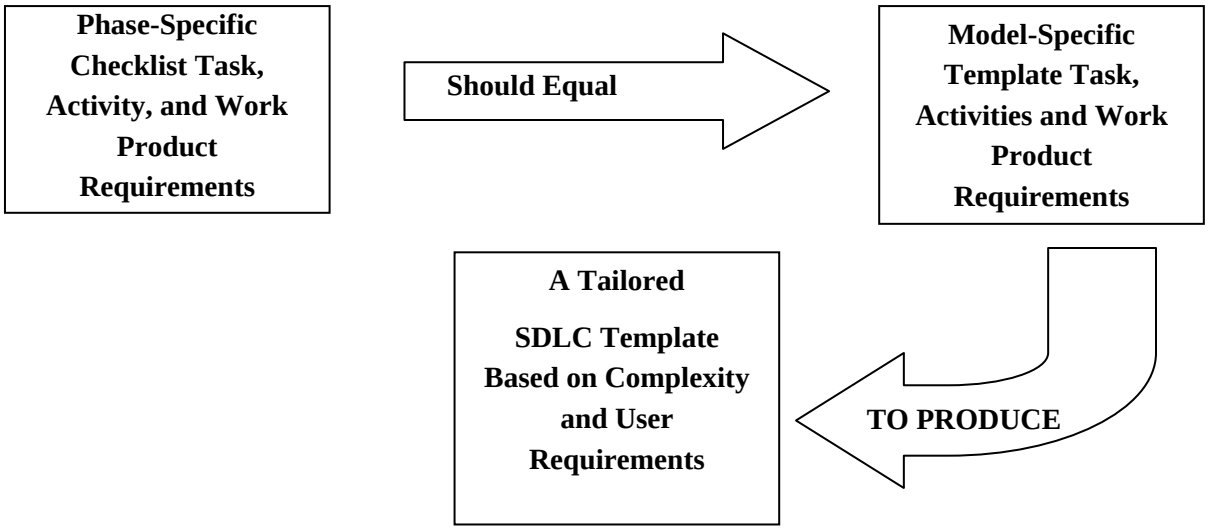


Figure 3: SDLC Model-Specific Templates

2.0 SDLC Phase-Specific Checklists Inconsistencies

Inconsistencies were identified by comparing:

1. Standard SDLC checklist task, activity, and work product requirements to Collaboration and Internet SDLC model-specific checklist requirements,
2. SDLC checklist task, activity, and work product requirements to requirements included on SDLC model-specific templates, and
3. Standard SDLC model-specific template task, activity, and work product requirements to Collaboration and Internet SDLC model-specific template requirements.

2.1 Findings

SDLC model documentation task, activity, and work product requirements differ in the following ways:

1. The number of task, activity, and work product requirements differ between SDLC phase-specific checklists,
2. Task, activity, and work product requirement names differ between SDLC phase-specific checklists,
3. SDLC model-specific templates contain tasks not required by SDLC phase-specific checklists,
4. There is no one-to-one relationship between phase-specific tasks and model-specific tasks,
5. Acronyms are not consistently identified or spelled out in SDLC documentation,
6. Meeting, review, and milestone requirements that support project tracking and oversight capabilities differ between spreadsheets, and
7. Maintenance tasks are not identified on the Standard or Internet SDLC model-specific templates.

Sections 2.0 and 3.0 and appendices to this report provide a more detailed description of each inconsistency found in checklists and overview flowcharts, respectively.

2.2 Identifying SDLC Requirements

PRIDE phase-specific checklists are the foundation upon which SDLC model-specific templates are built. They identify task, activity, and work product requirements that should be included in SDLC model-specific templates on a one-to-one basis.

2.2.1 SDLC Phases

Within SSA, the software development process is divided into five distinct phases:

1. Planning and Analysis (P&A),
2. Construction,
3. Post-implementation,
4. Maintenance, and
5. Tracking and Oversight.

Each distinct phase is made up of checklists that identify sequentially numbered task, activity, and work product requirement that should be included in an SDLC model-specific template on a one-to-one basis.

Tracking and oversight task, activity, and work product requirements, which are administrative in nature, apply to the first four phases. They identify senior and project level management reviews, technical reviews, customer status reviews, and project milestones such as design reviews, verification and validation test events, and delivery dates.

Figure 4 depicts the PRIDE Standard project phase-specific checklist. Phase-specific tasks are shown on the left side of each checklist. Individually numbered activities are shown in the center, and work products on the right. Each activity and work product is linked to subordinate information that provides an in-depth description of each requirement.

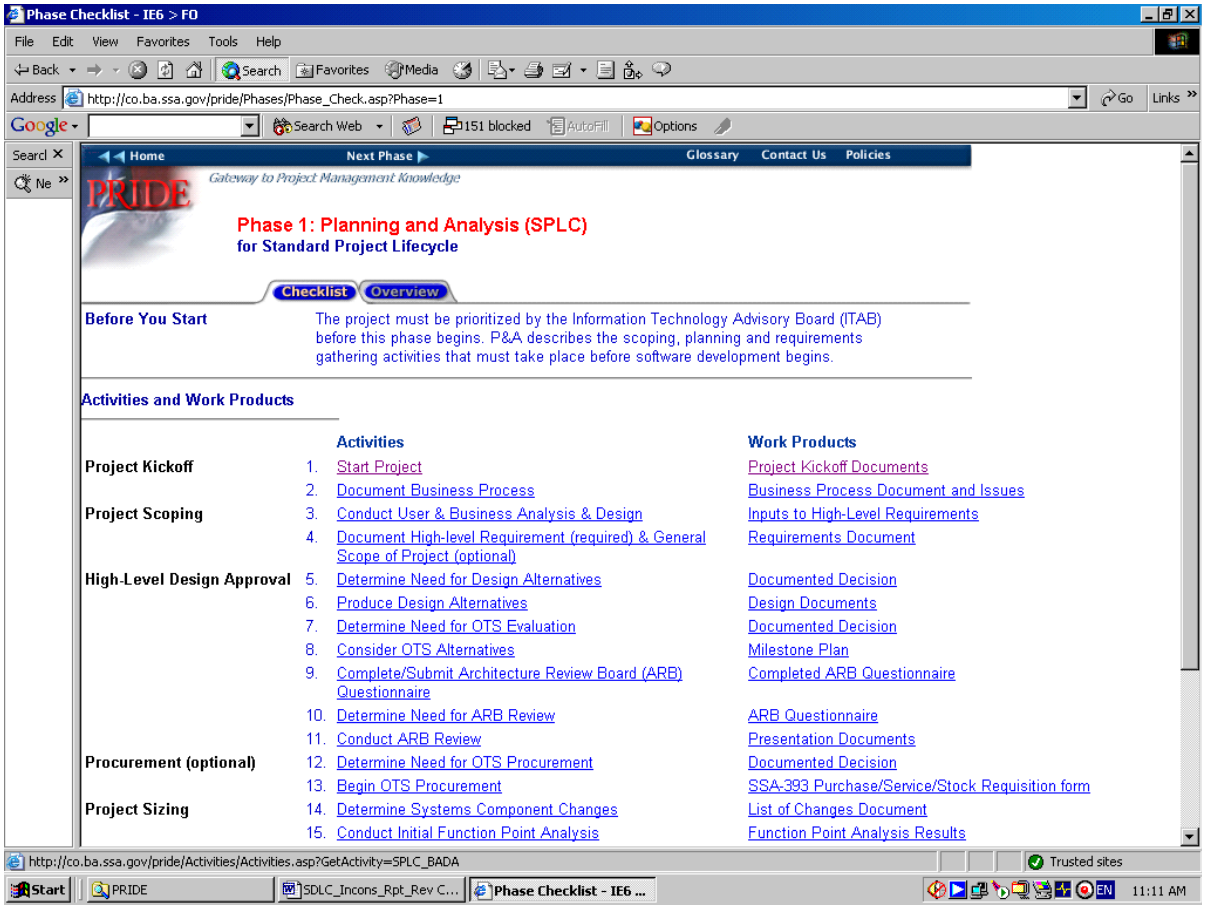


Figure 4: Standard Project Phase-Specific Checklist

Phase-specific activity and work product requirements are accessed using activity or work product links. Figure 5 depicts the Standard Planning and Analysis Phase Start Project activity page.

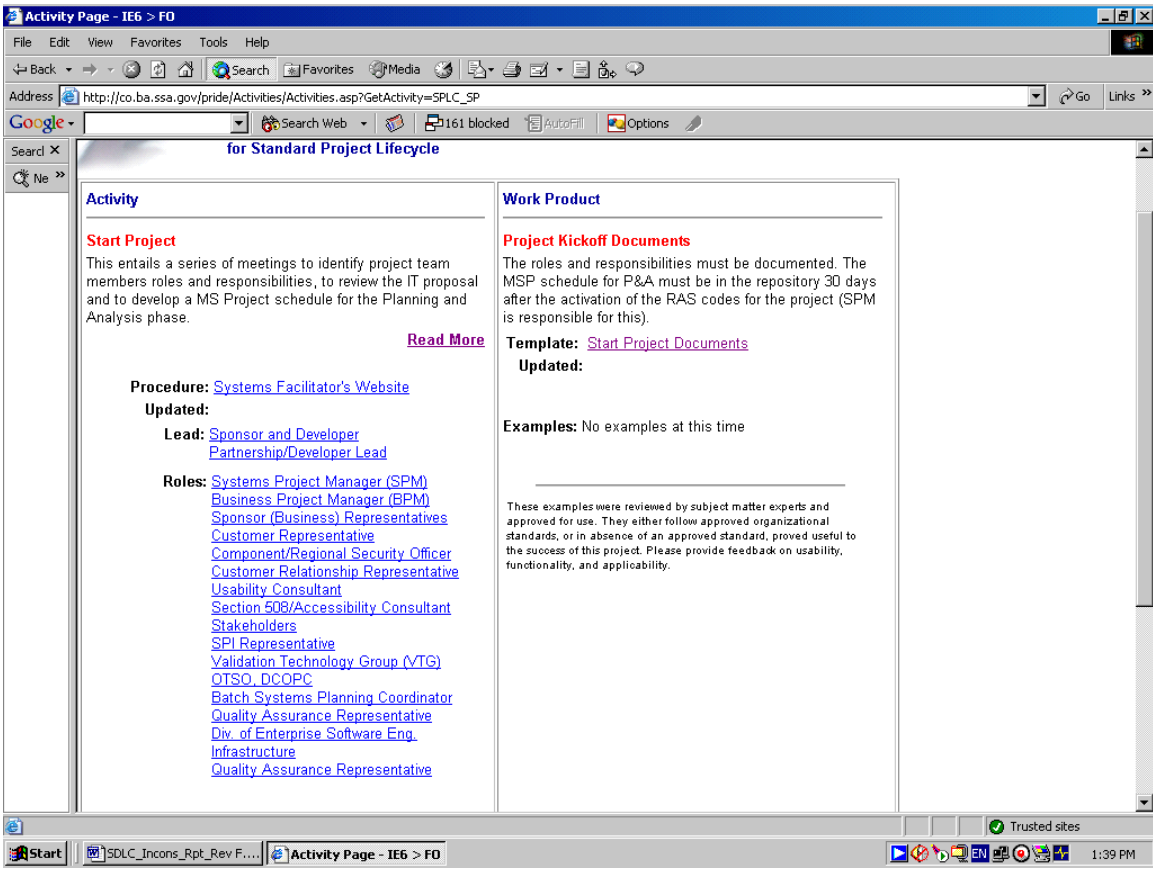


Figure 5: Project Start Activity Page

Subordinate activities, sometimes referred to as steps, and work products are identified in the "How is it done" section of each activity page. These subordinate activities and work products should appear on a one-to-one basis on SDLC model templates. Subordinate information pages are accessed by clicking the "Read More" link. Figure 6 depicts "How is it done" activity requirements associated with the Standard SDLC Planning and Analysis checklist.

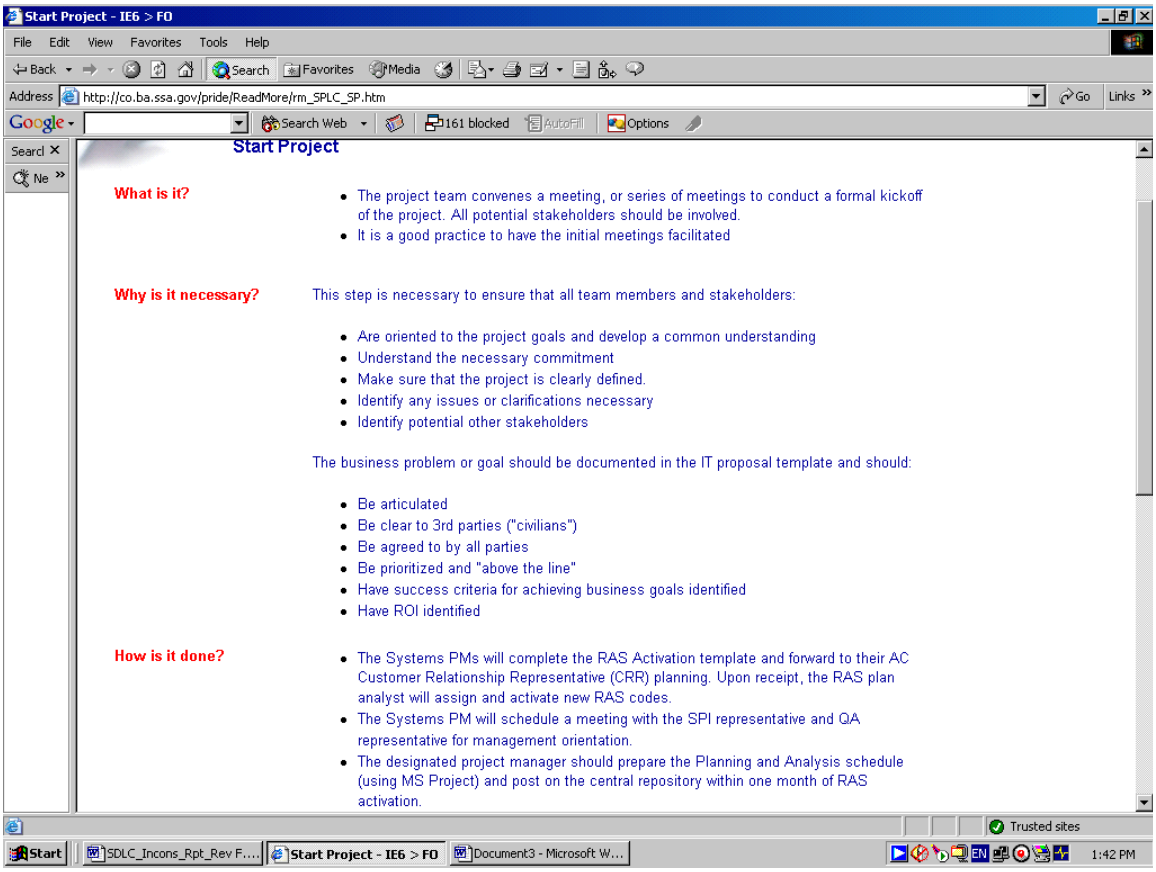


Figure 6: "How is it done" Activity Requirements Page

The detail by which subordinate activity and work product requirements are identified on a project's SDLC model-specific template is determined by the software development manager based on project complexity, tracking, oversight, and reporting obligations. More often than not, project status reports to senior management and customer representatives are based on information derived from SDLC model-specific templates.

2.2.2 Accessing SDLC Phase-specific Checklists

Figure 7 depicts the PRIDE "Select a Lifecycle" page that provides access to Standard, Collaboration, and Internet project lifecycle templates; and phase-specific checklists that identify activities and work products that should appear on each lifecycle template on a one-to-one basis.

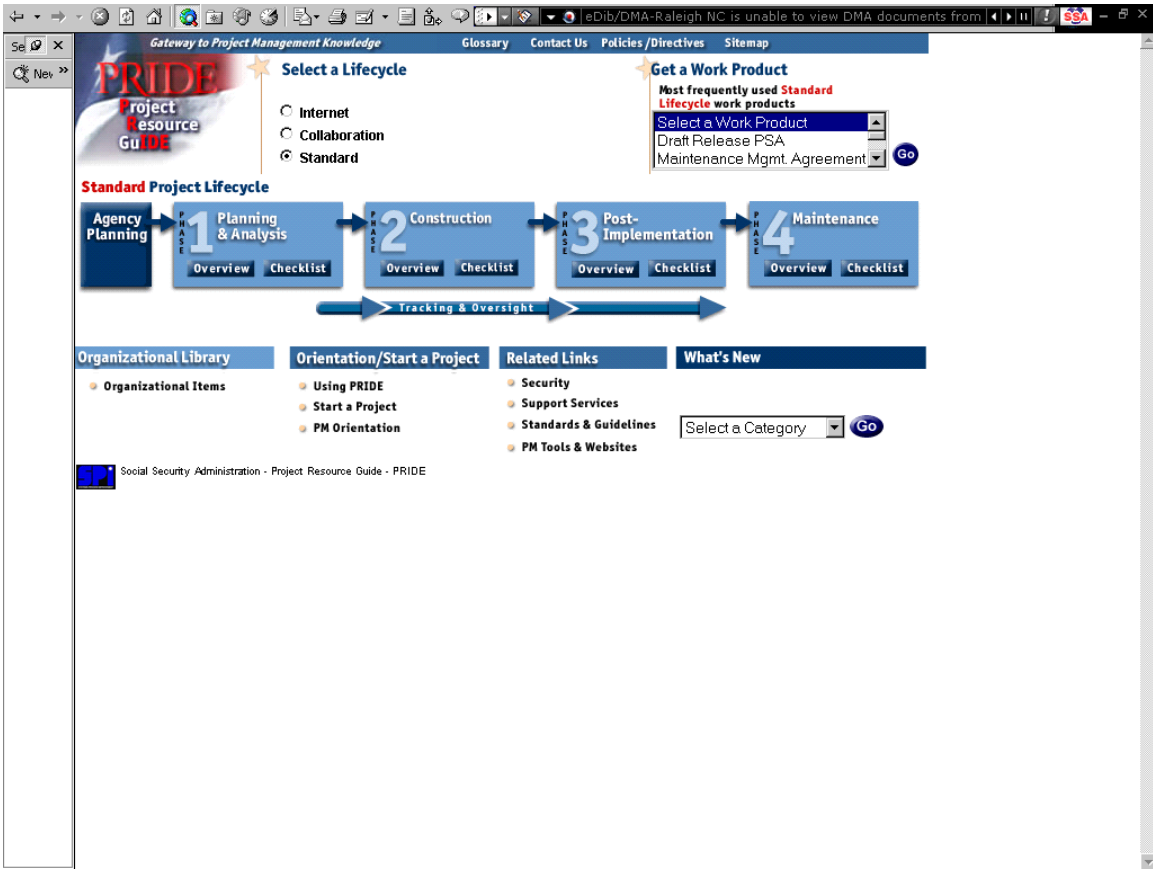


Figure 7: Accessing a Phase-Specific Checklist

PRIDE SDLC phase-specific checklists are accessed by clicking on the "Checklist" option located in each of the four development phase boxes or anywhere on the Tracking and Oversight phase arrow located below the first four lifecycle phases. Tracking and Oversight task, activity, and work product requirements are common to the Planning and Analysis, Construction, Post-Implementation, and Maintenance phases of software development.

Phase 5 Tracking and Oversight activities and work products are shown in Figure 8. In the majority of cases, activities and work products required by Phase 5 cannot be tailored out because they are administrative in nature and provide objective evidence of compliance to SSA policies and processes.

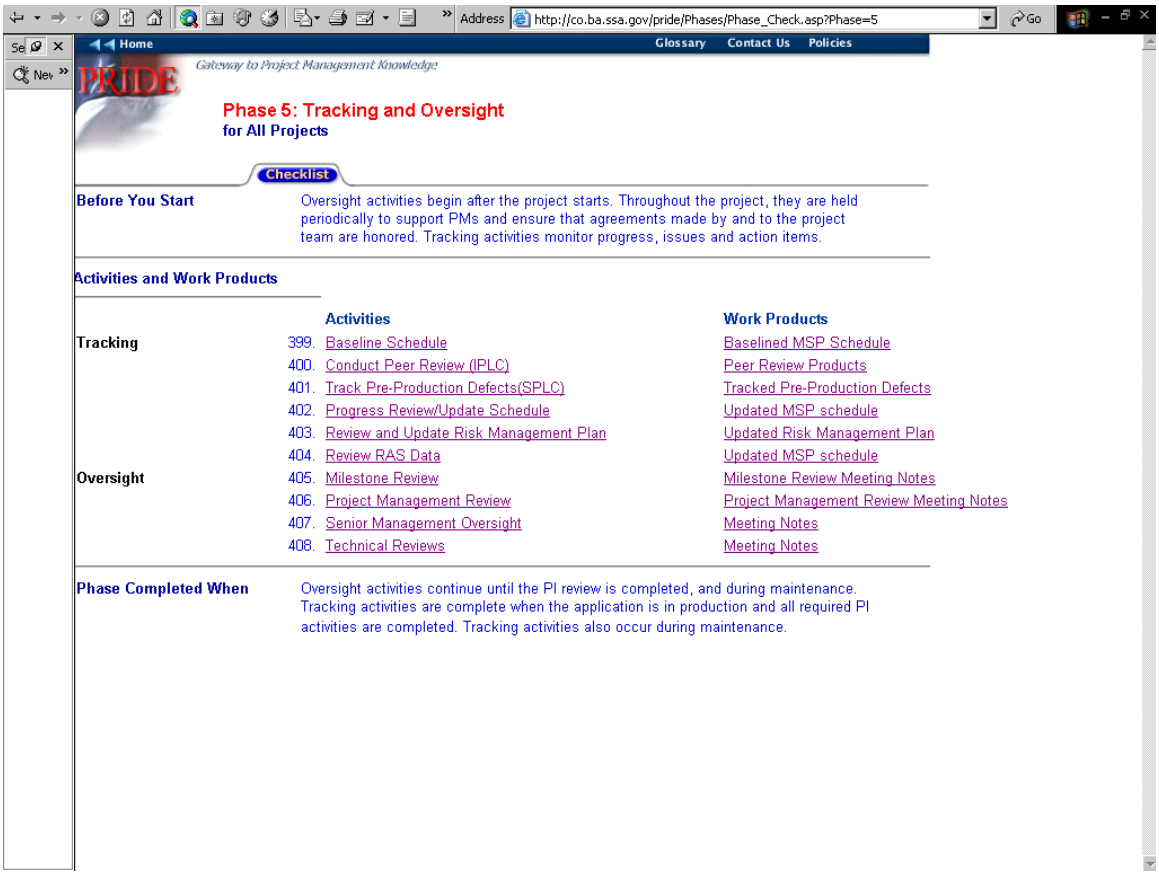


Figure 8: Tracking and Oversight Activities and Work Products

2.2.3 Accessing SDLC Model-Specific Templates

Software may be used to satisfy internal SSA requirements or it may be deployed nationwide to satisfy public consumer information accessibility needs. Which SDLC model-specific template is used to suit development needs is determined by the software development manager based end-user requirements and restrictions.

SDLC model-specific templates are accessed by clicking the "Baseline MSP schedule" work product link located at the top of the left side of the Tracking and Oversight checklist depicted in Figure 8.

2.3 Inconsistencies

Inconsistencies were identified by performing the following four comparisons:

1. Task-by-task between the three SDLC phase-specific checklists,
2. Activity-by-activity between the three SDLC phase-specific checklists,
3. Work product-by-work product between the three SDLC phase-specific checklists, and
4. Between phase-specific checklist to model-specific templates.

The following paragraphs describe inconsistencies discovered during each comparison. A more in-depth description of each inconsistency is provided in appendices to this report.

2.3.1 Checklist Task Inconsistencies

The following inconsistencies exist at the task level of each SDLC model phase-specific checklist:

1. A different number of tasks are identified in each phase as shown below,
2. Task names are not consistent,
3. Acronyms are not always spelled out on first usage, and
4. Task names are not included in the Post-Implementation phase.*

Table 1 – Checklist Task Inconsistencies

Phase	Standard	Collaboration	Internet
Planning and Analysis	6	3	4
Construction	11	4	5
Post-Implementation	0	1	2
Maintenance	0	0	0
Tracking and Oversight	2	2	2
Total Tasks	**19**	**10**	**13**

*Although there are no task level checklist requirements, activity and work product requirements are included as part of the Post-Implementation checklist.

Appendix A, Table 46 – Task-to-Task Matrix, identifies SDLC model phases–specific tasks required by lifecycle model checklists and shows inconsistencies between each model.

2.3.2 Checklist Activity Inconsistencies

The following inconsistencies exist at the activity level of each SDLC model phase-specific checklist:

1. A different number of activities are identified in each phase as shown below,
2. Activity names are not consistent, and
3. Acronyms are not always spelled out on first usage.

Table 2 – Checklist Activity Inconsistencies

Phase	Standard	Collaboration	Internet
Planning and Analysis	21	7	15
Construction	18	8	19
Post-Implementation	2	2	6
Maintenance	1	1	1
Tracking and Oversight	2	2	2
Total Activities	**44**	**20**	**43**

Appendix B, Table 47 – Activity-to-Activity Matrix, identifies SDLC model phases–specific activities required SDLC model checklists and shows inconsistencies between each checklist.

2.3.3 Checklist Work Product Inconsistencies

The following inconsistencies exist at the work product level each SDLC model phase-specific checklist:

1. A different number of work products are identified in each phase as shown below,
2. Work product names are not consistent, and
3. Acronyms are not always spelled out on first usage.

Table 3 – Checklist Work Product Inconsistencies

Phase	Standard	Collaboration	Internet
Planning and Analysis	21	7	15
Construction	18	8	19
Post-Implementation	2	2	6
Maintenance	1	1	1
Tracking and Oversight	2	2	2
Total Work Products	**44**	**30**	**43**

Appendix C, Table 48 – Work Product-to-Work Product Matrix, identifies SDLC model phase-specific work products SDLC model checklists and shows inconsistencies between each checklist.

2.3.4 Checklist to Template Inconsistencies

The following inconsistencies exist between SDLC phase-specific checklists and SDLC model-specific templates:

1. Checklist task, activity, and work product requirements do not appear on a one-to-one basis on model-specific templates,
2. Checklist task, activity, and work product requirement names differ on model-specific templates,
3. Checklist subordinate activity requirements and work product documents do not appear on a one-to-one basis on model-specific templates, and
4. Checklist subordinate activity requirement and work product document names differ on model-specific templates.

The following paragraphs identify phase-specific activity and sub-activity inconsistencies by SDLC model starting with the Standard SDLC model template:

2.3.4.1 Standard Checklist to Template Inconsistencies

The Standard phase-specific checklist was compared to the SDLC Standard model template. The following table summarizes inconsistencies discovered during the comparison effort. A more detailed inconsistency description is provided in Appendix D:

Table 4 – Standard Checklist to Template Inconsistencies

Phase	Inconsistency Number	Description
Planning and Analysis	1	The checklist identifies six tasks that should be listed on the template. No tasks have been identified on the template. See Appendix D, Table 49 – Standard Task Level Requirements Comparison Results.
Planning and Analysis	2	The checklist identifies 21 activity and work product requirements. The SDLC template contains 22. Inconsistencies are described in Appendix D, Table 50 – Quantity Inconsistencies.
Planning and Analysis	3	Checklist activity names and template activity names are not the same. Inconsistencies are shown in Appendix D, Table 51 – Naming Convention Inconsistencies.
Planning and Analysis	4	The *Start Project* activity identifies 19 subordinate activities All requirements are not included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 52 – Start Project Comparison Results.
Planning and Analysis	5	The *Document Business Process* activity identifies eight requirements (steps). Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 53 – Document Business Products Comparison Results.
Planning and Analysis	6	The *Conduct User and Business Analysis and Design* activity identifies subordinate Analysis Activities and Design Activities. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 54 – Conduct User and Business Analysis and Design Comparison Results.

Phase	Inconsistency Number	Description
Planning and Analysis	7	The *Document High-Level Requirements* activity identifies six subordinate requirements (steps). Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 55 – Document High-Level Requirements Comparison Results.
Planning and Analysis	8	The *Determine Need for Off-the-Shelf* (*OTS) Evaluation* activity identifies seven subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 56 – Determine Need for OTS Evaluation Comparison Results.
Planning and Analysis	9	The *Consider OTS Alternatives* activity identifies five subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 57 – Consider OTS Alternatives Comparison Results.
Planning and Analysis	10	The *Determine the Need for Architecture Review Board (ARB) Review* activity identifies five subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 58 – Need for ARB Evaluation Comparison Results.
Planning and Analysis	11	The *Determine Need for OTS Procurement* activity identifies two subordinate requirements. Neither requirement is included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 59 – Determine Need for OTS Procurement Comparison Results.
Planning and Analysis	12	The *Begin Commercial Off-the-Shelf* (*COTS) Procurement* activity identifies seven subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 60 – Begin COTS Procurement Comparison Results.

Phase	Inconsistency Number	Description
Planning and Analysis	13	The *Plan the Release* activity identifies three subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 61 – Plan the Release Comparison Results.
Construction	1	The *Develop Detailed Functional Requirements (DFR)/ System Requirements Specification (SRS)* activity identifies eight subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 62 – Develop Detailed Functional Requirements/Specifications Comparison Results.
Construction	2	The *Plan for Validation and Testing* activity identifies four subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 63 – Plan for Validation and Testing Comparison Results.
Construction	3	The *Prepare for Modernized Systems Operational Manuals (MSOM) and Program Operational Manual System (POMS)* activity identifies five subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 64 – Prepare MSM and POMS Comparison Results.
Construction	4	The *Conduct Usability testing* activity identifies 10 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 65 – Conduct Usability Testing Comparison Results.
Construction	5	The *Conduct Design Activities* activity identifies nine subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 66 – Conduct Design Activities Comparison Results.

Phase	Inconsistency Number	Description
Construction	6	The *Develop Code, Unit Test, System Test* activity identifies nine subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 67 – Develop Code, Unit Test, Systems Test Comparison Results.
Construction	7	The Conduct Validation activity identifies seven subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 68 – Conduct Validation Comparison Results.
Construction	8	The *Office of Telecommunications and Systems Operations (OTSO) Initial Planning Meeting* activity identifies three subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 69 – OTSO Initial Planning Meeting Comparison Results.
Construction	9	The *Conduct Milestone Review* activity identifies seven subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 70 – Conduct Milestone Review Comparison Results.
Construction	10	The *Conduct Implementation ARB Evaluation* activity identifies three subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 71 – Conduct Implementation ARB Evaluation Comparison Results.
Construction	11	The *Conduct Integration and Environmental Testing* activity identifies seven subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 72 – Conduct Integration and Environment Testing Comparison Results.

Phase	Inconsistency Number	Description
Construction	12	The *Move to Production* activity identifies two subordinate requirements (steps). Not all requirements are included on the template. A comparison of checklist requirements to template requirements is shown in Appendix D, Table 73 – Move to Production Comparison Results.
Post-Implementation	1	The *Conduct Final Function Point Count* activity identifies three subordinate requirements (steps). Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 74 – Conduct Final Function Point Count Results.
Post-Implementation	2	The *Conduct Lessons Learned and Process Evaluation* activity identifies six subordinate requirements (steps). Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix D, Table 75 – Conduct Lessons Learned and Process Evaluation Comparison Results.
Maintenance	1	There is one activity required in the Maintenance phase. The *Establish a Maintenance Management Agreement (MaMA)* activity and subordinate requirements do not appear on the Standard SDLC model template. A list of subordinate requirements that do not appear on the template are shown in Appendix D, Table 76 – (Omitted) Establish a Maintenance Management Agreement (MaMA).

2.3.4.2 Collaboration Checklist to Template Inconsistencies

The Collaboration phase-specific checklist was compared to the SDLC Collaboration model template. The following table summarizes inconsistencies discovered during the comparison effort. A more detailed description is provided in Appendix E:

Table 5 – Collaboration Checklist to Template Inconsistencies

Phase	Inconsistency Number	Description
Planning and Analysis	1	The checklist identifies three tasks that should be shown on the template. The SDLC Collaboration model template has 13 requirements identified at the task level. See Appendix E, Table 77 – Collaboration Task Level Requirements Comparison Results.
Planning and Analysis	2	The *Statement of Business Need* activity identifies one subordinate requirement to Complete an IT Proposal Template. No specific requirement to produce the IT Proposal Template appears on the Collaboration SDLC model template.
Planning and Analysis	3	The *Start Project* activity identifies 15 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 78 – Start Project Comparison Results.
Planning and Analysis	4	The *Conduct Appropriate Security Activities* activity identifies 11 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 79 – Conduct Appropriate Security Activities Comparison Results.
Planning and Analysis	5	The *Conduct Capacity Planning Activities* activity identifies 13 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 80 – Conduct Capacity Planning Activities Comparison Results.
Planning and Analysis	6	The *Product Planning Activities* activity identifies three work products required to support activity needs. No work products are identified on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 81 – Develop Project Plan Comparison Results.
Construction	1	The *Conduct Requirements Analysis* activity identifies 15 subordinate requirements and work products. Not all requirements are included on the template. A comparison of checklist

Phase	Inconsistency Number	Description
		requirements to Template requirements is shown in Appendix E, Table 82 – Conduct Requirements Analysis Comparison Results.
Construction	2	The *Conduct Design Activities* activity identifies nine subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 83 – Conduct Design Activities Comparison Results.
Construction	3	The *Plan for Validation* activity identifies nine subordinate requirements. The requirement to identify tools has been omitted from the Template. The other eight requirements are accounted for.
Construction	4	The *Develop Software* activity identifies 12 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 84 – Develop Software Comparison Results.
Post-Implementation	1	There is only one task level requirement in the Post-Implementation phase; it has not been included on the Template. The *Project Closer* task is missing from the Template.
Post-Implementation	2	The *Conduct Process Evaluation and Lessons Learned* activity identifies 12 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 85 – Conduct Process Evaluation and Lessons Learned Comparison Results.
Maintenance	1	There are no task level tasks identified on the checklist. There should be one.
Maintenance	2	The *Establish a Maintenance Management Agreement (MaMA)* activity identifies 5 subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to Template requirements is shown in Appendix E, Table 86 – Establish a Maintenance Management Agreement (MaMA).

2.3.4.3 Internet Checklist to Template Inconsistencies

The Internet phase-specific checklist was compared to the SDLC Internet model template. The following table summarizes inconsistencies discovered during the comparison effort. A more detailed inconsistency description is provided in Appendix F.

Generally, no one-to-one relationship between phase-specific checklists tasks, activities, and work products and the PRIDE SDLC Internet model template exists. The work breakdown structure (WBS) is extremely granular compared to phase-specific checklist requirements. In the Planning and Analysis Phase, requirements extend to the sixth WBS level.

Table 6 – Internet Checklist to Template Inconsistencies

Phase	Inconsistency Number	Description
Planning and Analysis	1	The checklist identifies four phase-specific tasks that should be listed on the template. The template lists five. See Appendix F, Table 87 – Internet Task Level Requirements Comparison Results, for a more detailed inconsistency explanation.
Planning and Analysis	2	The *Start Approved Project* task activity is not listed on the template. The activity identifies eight subordinate requirements that have also been omitted. See Appendix F, Table 88 – Start Project Comparison Results, for a more detailed inconsistency explanation.
Planning and Analysis	3	The *Conduct Consultation* task activity is not listed on the template. The activity identifies five subordinate requirements that have also been omitted. See Appendix F, Table 89 – Conduct Consultations Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	4	The *Conduct Business Activities* task activity is not listed on the template. The activity identifies five subordinate requirements that have also been omitted. See Appendix F, Table 90 – Conduct Business Activities Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	5	The *Document Business Process, Business and User Requirements* task activity is not listed on the template. The activity identifies five subordinate requirements (steps) that have also been omitted. See Appendix F, Table 91 – Document Business Process, Business and User Requirement Comparison Results for a more detailed inconsistency explanation.

Phase	Inconsistency Number	Description
Planning and Analysis	6	The *Assess Risks* task activity is not listed on the template. The activity identifies three subordinate requirements that have also been omitted. See Appendix F, Table 92 – Assess Risks Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	7	The *Define Project Scope* task activity is not listed on the template. The activity identifies five subordinate requirements that have also been omitted. See Appendix F, Table 93 – Define Project Scope Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	8	The *Determine Implementation Strategy* task activity is not listed on the template. The activity identifies four subordinate requirements that have also been omitted. See Appendix F, Table 94 – Determine Implementation Strategy Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	9	The *Conduct Milestone Review* task activity is not listed on the template. The activity identifies nine subordinate requirements that have also been omitted. See Appendix F, Table 95 – Conduct Milestone Review Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	10	The *Team Approval* task activity is not listed on the template. The activity identifies four subordinate requirements that have also been omitted. See Appendix F, Table 96 – Obtain Team Approval Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	11	The *Obtain Sponsoring Component Approval* task activity is not listed on the template. The activity identifies three subordinate requirements that have also been omitted. See Appendix F, Table 97 – Obtain Sponsoring Component Approval Comparison Results for a more detailed inconsistency explanation.
Planning and Analysis	12	The *Identify Return on Investment (ROI) Captured for Release* task activity is not listed on the template. The activity identifies three subordinate requirements that have also been omitted. See Appendix F, Table 98 – Identify ROI Captured for Release Comparison Results for a more detailed inconsistency explanation.

Phase	Inconsistency Number	Description
Planning and Analysis	13	The *Approval of Release Scope Package* task activity is not listed on the template. The activity identifies five subordinate requirements that have also been omitted. See Appendix F, Table 99 – Approval of Release Scope Package Comparison Results for a more detailed inconsistency explanation.
Construction	1	The *First Function Point Analysis* task activity is not listed on the template. The activity identifies five subordinate requirements and one work product that have also been omitted. See Appendix F, Table 100 – First Function Point Analysis (FPA) Comparison Results for a more detailed inconsistency explanation.
Construction	2	The *Plan the Release* task activity is not listed on the template. The activity identifies seven subordinate requirements and one work product that have also been omitted. See Appendix F, Table 101 – Plan the Release Comparison Results for a more detailed inconsistency explanation.
Construction	3	The *Create Schedule* task activity is not listed on the template. The activity identifies five subordinate requirements and one work product that have also been omitted. See Appendix F, Table 102 – Create Schedule Comparison Results for a more detailed inconsistency explanation.
Construction	4	The *Develop Detailed Functional Specifications* activity is listed on the template as *Functional Specifications*. Template activities comply with checklist requirements.
Construction	5	The *Develop Detailed Design* task activity is listed on the template as *Develop Design*. The activity identifies five subordinate requirements and one work product that have also been omitted as shown in Appendix F, Table 103 – Develop Detailed Design Comparison Results.
Construction	6	The *Conduct Development* task activity is not listed on the template. The checklist activity identifies seven subordinate requirements and one work product that have also been omitted. See Appendix F, Table 104 – Conduct Development Activities Comparison Results for a more detailed inconsistency explanation.

Phase	Inconsistency Number	Description
Construction	7	The *Unit Testing, Usability, Accessibility, Pre-Validation* task activity is not listed on the template. The activity identifies seven subordinate requirements and two work products that have also been omitted. See Appendix F, Table 105 – Conduct Unit Testing, Usability, Accessibility, Pre-Validation Comparison Results for a more detailed inconsistency explanation.
Construction	8	The *Develop Master Test Plan* task activity is not listed on the template. The activity identifies one subordinate requirement and one work product that has also been omitted. See Appendix F, Table 106 – Develop Master Test Plan Comparison Results for a more detailed inconsistency explanation.
Construction	9	The *Plan for Validation* task activity is not listed on the template. The activity identifies four subordinate requirements and two work products that have also been omitted. See Appendix F, Table 107 – Plan for Validation Comparison Results for a more detailed inconsistency explanation.
Construction	10	The *Start Architecture Questionnaire* task activity is not listed on the template. The activity identifies four subordinate requirements and one work product that has also been omitted. See Appendix F, Table 108 – Start Architecture Questionnaire Comparison Results for a more detailed inconsistency explanation.
Construction	11	The *Conduct Security Meeting* task activity is not listed on the template. The activity identifies one subordinate requirement and one work product that have also been omitted. See Appendix F, Table 109 – Conduct Security Meeting Comparison Results for a more detailed inconsistency explanation.
Construction	12	The *OTSO Integrated Planning Meeting* task activity is not listed on the template. The activity identifies one subordinate requirement and one work product that have also been omitted. See Appendix F, Table 110 – OTSO Integrated Planning Meeting Comparison Results for a more detailed inconsistency explanation.

Phase	Inconsistency Number	Description
Construction	13	The *Conduct Accessibility Testing* task activity is not listed on the template. The activity identifies one subordinate requirement and one work product that have also been omitted. See Appendix F, Table 111 – Conduct Accessibility Testing Comparison Results for a more detailed inconsistency explanation.
Construction	14	The *Conduct Usability Testing* task activity is not listed on the template. The activity identifies nine subordinate requirements (steps) and one work product that have also been omitted. See Appendix F, Table 112 – Conduct Usability Testing Comparison Results for a more detailed inconsistency explanation.
Construction	15	The *Start Capacity Planning Activities* task activity is not listed on the template. The activity identifies two subordinate requirements that have also been omitted. See Appendix F, Table 113 – Start Capacity Planning Activities Comparison Results for a more detailed inconsistency explanation.
Construction	16	The *Conduct Final Validation* task activity is not listed on the template. The activity identifies three subordinate requirements that have also been omitted. See Appendix F, Table 114 – Conduct Final Validation Comparison Results for a more detailed inconsistency explanation.
Construction	17	The *Conduct Final Integration Testing* task activity is listed on the template as *Integration and Test*. Some checklist activities have been omitted from the template as shown in Appendix F, Table 115 – Conduct Final Integration Testing Comparison Results.
Construction	18	The *Release to Production* task activity is listed on the template as *Production*. Some checklist activities have been omitted from the template as shown in Appendix F, Table 116 – Release to Production Comparison Results.
Post-Implementation	1	The *Pilot Evaluation* task activity is listed on the template as *Conduct Pilot Evaluation*. Some checklist activities have been omitted from the template as shown in Appendix F, Table 117 – Pilot Evaluation Comparison Results.

Phase	Inconsistency Number	Description
Post-Implementation	2	The *Conduct Lessons Learned/Process Evaluation* task activity is listed on the template, but checklist activities have been omitted from the template as shown in Appendix F, Table 118 – Conduct Lessons Learned/Process Evaluation Comparison Results.
Post-Implementation	3	The *Prepare for National Rollout* task activity is listed on the template, but checklist activities have been omitted from the template as shown in Appendix F, Table 119 – Prepare for National Rollout Comparison Results.
Maintenance	1	The *Establish a Maintenance Management Agreement (MaMA)* activity identifies five subordinate requirements. Not all requirements are included on the template. A comparison of checklist requirements to template requirements is shown in Appendix F, Table 120 – Establish a Maintenance Management Agreement (MaMA).

3.0 SDLC Phase-Specific Overview Flowcharts Inconsistencies

Inconsistencies were identified by comparing SDLC overview flowcharts to corresponding checklist activity and work product requirements on a one-to-one basis. Inconsistencies are documented for informational purposes only. No assumption is made as to whether the overview flowchart or the corresponding checklist is correct.

3.1 Findings

SDLC overview flowchart activity, and work product requirements differ from checklist requirements in the following ways:

1. Overview flowchart activities are shown as logical progressions that lead to decision gates that determine a specific course of action based on "yes" of "no" exit criteria. Checklist activities are listed sequentially and do not require a decision prior to progressing to the next step.
2. Overview flowchart activities are depicted as blocks, diamonds, or ovals. Links to subordinate activity and work product pages are neither available nor apparent. Checklist activities and work products provide links to subordinate requirements to further define requirements.
3. Requirement names are not always consistent between overview flowchart and checklist activities.
4. In some cases, overview flowchart activities do not result in any apparent output or require progression to another performance sequence.
5. Numbering of activities is not sequential when progressing from one SDLC phase to another. For example, an overview flowchart post-implementation phase ends at step 17 then begins at step 41 in the maintenance phase. The reason why 24 steps are missing is not explained.
6. Inconsistent activity numbering exists between overview flowcharts and matching checklists. For example, the Collaboration SDLC overview flowchart maintenance phase begins with sequence 41 while the Collaboration SDLC checklist maintenance phase sequence begins at step 40.
7. Only the Internet overview flowchart lists tasks shown on corresponding checklists. The Standard and Collaboration flowcharts show only activities and work products, and
8. The Internet Flowchart provides a more granular listing of activity work products when compared to Standard and Collaboration overview flowcharts.

Section 3.3 provides a more detailed description of each inconsistency. When necessary, screen depiction is shown for clarity.

3.2 Identifying SDLC Requirements

Overview flowchart requirements should correspond to SDLC checklist requirements on a one-to-one basis. A software project manager should be able to use either document, independent of the other, to manage, track, and report the status of a software development project.

3.2.1 SDLC Phase-Specific Flowcharts

Although there are five SDLC phases associated with each SSA SDLC model, only four overview flowcharts exist:

1. Planning and Analysis (P&A),
2. Construction,
3. Post-implementation, and
4. Maintenance.

Phase 5 Tracking and Oversight requirements are common to all SDLC model phases, and are therefore identified only on phase-specific checklists.

3.2.2 Accessing SDLC Flowcharts and Checklists

Overview flowcharts and checklists are accessed using the Intranet-based PRIDE system. Figure 9 depicts the "Select a Model" page used to access Standard, Collaboration, and Internet SDLC documentation to include overview flowcharts and checklists.

Overview flowcharts and checklists are retrieved by clicking on the "Overview" or "Checklist" boxes located on the bottom of phase-specific SDLC phase.

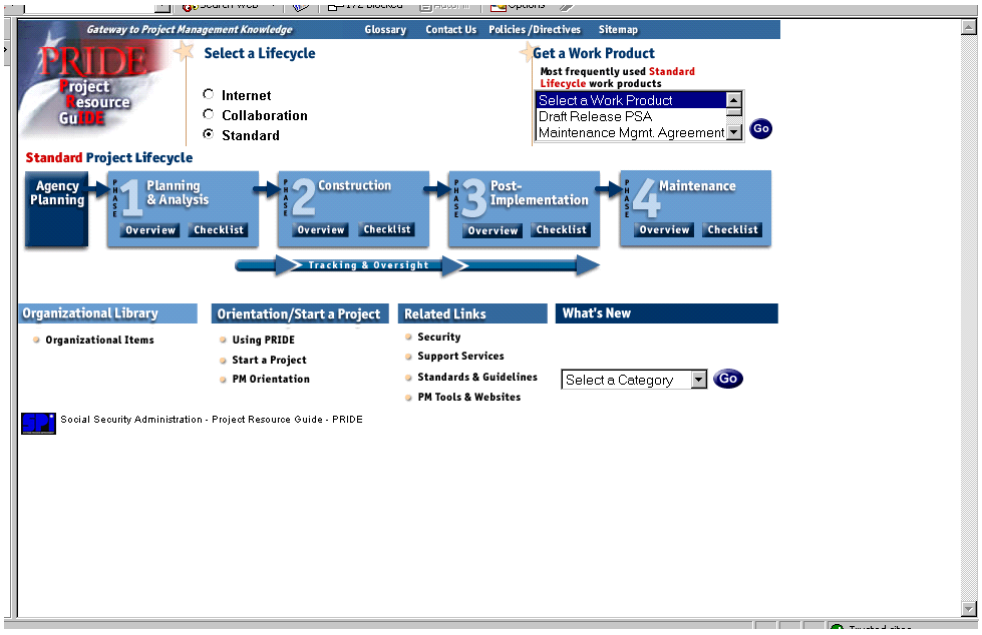


Figure 9: PRIDE Select a Model Page

Figure 10 depicts the Standard SDLC Planning and Analysis overview flowchart.

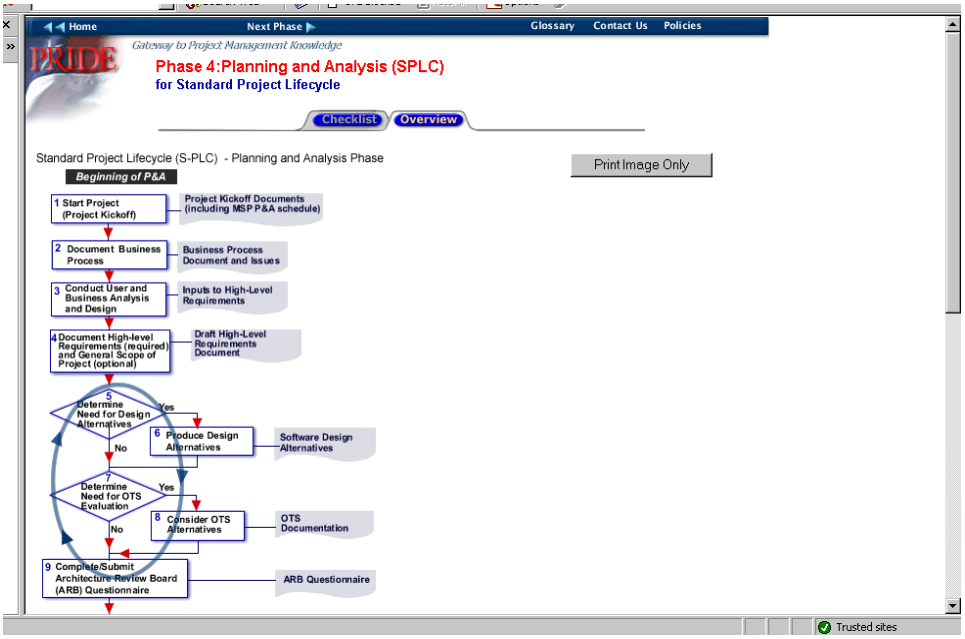


Figure 10: SDLC Planning and Analysis Overview Flowchart

Figure 11 depicts the SDLC Planning and Analysis checklist.

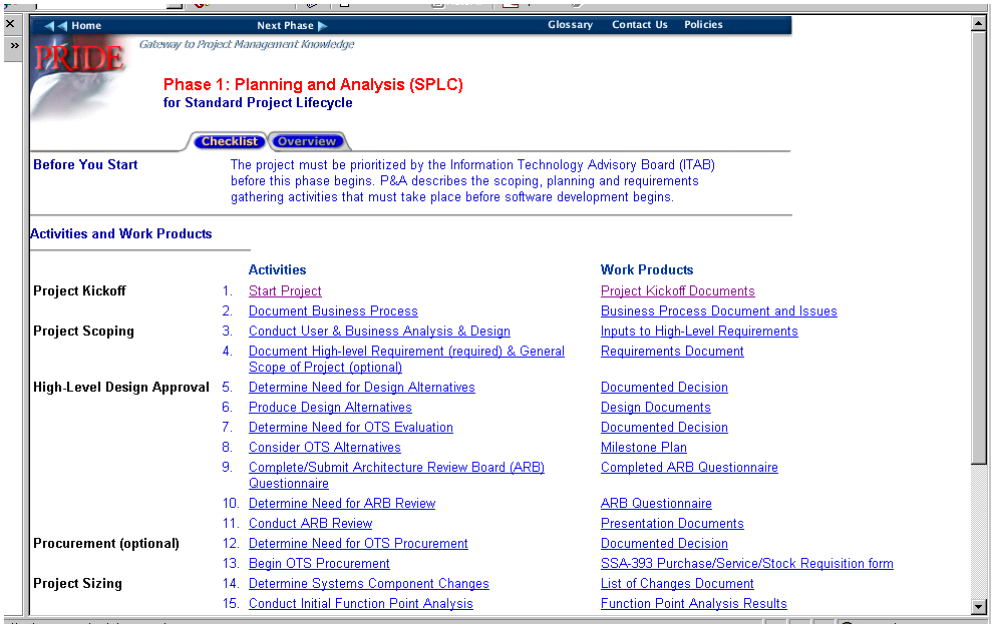


Figure 11: SDLC Planning and Analysis Checklist

3.3 Inconsistencies

Inconsistencies were identified by comparing:

1. Activity requirements between the SDLC model overview flowcharts and checklists,
2. Work product requirements between the SDLC model overview flowcharts and checklists, and
3. Naming and numbering schemes used for SDLC model overview flowcharts and checklists.

The following paragraphs describe inconsistencies discovered during each comparison. A more in depth description of each inconsistency is provided in appendices to this report.

3.3.1 Standard Overview Flowchart Findings

Tables 7 and 8 document phase-specific inconsistencies discovered during the overview flowchart to checklist comparison effort:

Table 7 – Standard SDLC Planning and Analysis Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	Tasks are not shown on the overview flow chart. Tasks are shown only on the Internet overview flowchart.
1	2	The *Start Project (Project Kickoff)* sequence name differs from checklist activity 1, *Start Project.*
4	3	The *Document High-level Requirements (required) and General Scope of Project (optional)* sequence work product name, Draft High-level Requirements Document, differs from the work product identified on the checklist, which is, General User Requirements Template.
5	4	The *Determine the Need for Design Alternatives* requires a decision making process for steps five through nine. This decision making process is not apparent on the corresponding checklist.
5	5	The *Determine the Need for Design Alternative* sequence does not show the work product listed on the checklist, which is, Documented Decision.
6	6	The *Produce Design Alternatives* sequence work product name, Software Design Alternatives, differs from the work product identified on the checklist, which is, Design Documents.
7	7	The *Determine Need for OTS Evaluation* sequence does not show the work product listed on the checklist, which is, Documented Decision.

Overview Flowchart Sequence	Inconsistency Number	Description
8	8	The *Consider OTS Alternatives* sequence work product name, OTS Documentation, differs from the work product identified on the checklist, which is, Milestone Plan.
10	9	The *Determine Need for ARB Review* requires a decision making process for steps 10 through 13. This decision making process is not apparent on the corresponding checklist.
10	10	The *Determine Need for ARB Review* sequence does not show the work product listed on the checklist, which is, ARB Questionnaire.
11	11	The *Conduct ARB Evaluation* sequence name differs for the checklist activity name, which is Conduct ARB Review.
11	12	The *Conduct ARB Evaluation* sequence work product name, ARB Findings, differs from the work product identified on the checklist name, which is, ARB Findings.
12	13	The *Determine Need for OTS Procurement* sequence does not show the work product listed on the checklist, which is, Documented Decision.
13	14	The *Begin OTS Procurement* sequence does not show the related SSA-393 Purchase/Service/Stock Requisition Form work product.
16	15	The *Negotiate Release Size and Scope sequence* requires a decision making process at steps 16 through 18. This decision making process is not apparent on the checklist requirements.
17	16	The *Determine if Bundling is Necessary* sequence name differs from the checklist name, which is, *Determine Need to Bundle Initiatives.*
19	17	The *Obtain Approval to Proceed to Construction* sequence work product name, Go/No Go Decision, differs from the work product identified on the checklist, which is, IT Planning Decision.

Table 8 – Standard SDLC Construction Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	Tasks are not shown on the overview flow chart. Tasks are shown only on the Internet overview flowchart.
23	2	The *Plan for Validation and Testing* sequence work product name, Validation/Test Planning Document, differs from the work product identified on the checklist, which is, Validation and Test Plan.
24	3	The *Prepare MSOM and POMS* sequence work product name, Policy and System Instructions, differs from the work product identified on the checklist, which is, Procedure Manuals.
25	4	The name of sequence number 25, *Conduct Design Activities,* does not agree with checklist activity requirement number 25, which is, *Determine Need for Architecture Review Board (ARB).* The *Conduct Design* activity is listed on the checklist as activity number 29.
27	5	The name of sequence number 27, *Architecture Review Board (ARB) Indicated*, does not agree with checklist activity requirement number 27, *Conduct Second Point Functional Analysis.* The *Architecture Review Board (ARB) Indicated* process is not a checklist requirement.
28	6	The name of sequence number 28, *Conduct Architecture Review Board Design Review,* does not agree with checklist activity requirement number 28, *Conduct Milestone Review.* The *Conduct Architecture Review Board Design Review* requirement is listed on the checklist as activity number 30, *Conduct Architecture Review Board Design Evaluation.*
28	7	Sequence number 28, *Conduct Architecture Review Board Design Review,* requires a decision process requirement that is not apparent on the checklist.
29	8	The name of sequence number 29, *Conduct Second Point Functional Analysis,* does not agree with checklist activity requirement number 29, *Conduct Design Activities.* The *Conduct Second Point Functional Analysis* requirement is listed on the checklist as activity number 27.

Overview Flowchart Sequence	Inconsistency Number	Description
30	9	The name of sequence number 30, *Conduct Milestone Review,* does not agree with checklist activity requirement number 30, *Conduct Architecture Review Board Design Evaluation.* The *Conduct Milestone Review* requirement is listed on the checklist as activity number 28.
32	10	The *Conduct Validation* sequence work product name, Software Baseline, differs from the work product identified on the checklist, which is, Validation Products.
36	11	Sequence number 36, *Conduct Integration and Environmental and Testing,* requires a decision process requirement that is not apparent on the checklist. Also, the name of sequence 36 should read *Conduct Integration and Environmental Testing.* The word "and" should be deleted after the word "Environmental."
39	12	The sequence 39 work product, Completed Application, is not shown on the flowchart.

Lockheed Martin discovered no discrepancies between the Post-Implementation Phase or the Maintenance Phase overview flowcharts and corresponding checklists.

3.3.2 Collaboration Overview Flowchart Findings

Tables 9 through 12 document phase-specific inconsistencies discovered during the overview flowchart to checklist comparison effort.

Table 9 – Collaboration SDLC Planning and Analysis Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	Tasks are not shown on the overview flow chart. Tasks are shown only on the Internet overview flowchart.
2	2	The *Start Project (Project Kickoff)* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is, Project Kickoff Documents.
3	3	The *Define Project Scope and High-Level Requirements* sequence work product name, High Level Requirements Document or Project Scope Agreement, differs from the work product identified on the checklist, which is, High Level Documents.
7	4	The *Develop a Project Plan* sequence work product name, Project Plan and Project Schedule, differs from the work product identified on the checklist, which is, Project Plan (SDP).

Table 10 – Collaboration SDLC Construction Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	Tasks are not shown on the overview flow chart. Tasks are shown only on the Internet overview flowchart.
8	2	Sequence number 8, *Conduct Requirements Analysis,* requires a decision process requirement that is not apparent on the checklist.
13	3	The *Conduct Validation and Verification* sequence work product name, Validation Acceptance Report, differs from the work product identified on the checklist, which is, Validation Products.
14	4	The name of sequence number 14, *Conduct Integration Testing,* does not agree with checklist activity requirement number 14, *Conduct Integration and Environmental Testing.*

Overview Flowchart Sequence	Inconsistency Number	Description
15	5	The name of sequence number 15, *Production,* does not agree with checklist activity requirement number 30, *Move to Production.*

Table 11 – Collaboration SDLC Post-Implementation Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	Tasks are not shown on the overview flow chart. Tasks are shown only on the Internet overview flowchart.
17	2	The name of sequence number 17, *Conduct Process Evaluation/Lessons Learned,* does not agree with checklist activity requirement number 17, *Conduct Lessons Learned/Process Evaluation.*
17	3	The *Conduct Process Evaluation/Lessons Learned* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is, Lessons Learned/Process Evaluation.
N/A	4	The Post-Implementation Phase ends with sequence number 17, *Conduct Process Evaluation/Lessons Learned.* The ensuring Maintenance Phase begins at sequence 41, *Establish Maintenance Management Agreement.* No explanation is given for missing sequences 18 through 40.

Table 12 – Collaboration SDLC Maintenance Phase

Overview Flowchart Sequence	Inconsistency Number	Description
41	1	The Maintenance Phase begins with sequence 41, *Establish Maintenance Management Agreement*. The checklist begins with activity number 40, *Establish Maintenance Management Agreement.* No explanation is provided to explain why the same requirements are numbered differently.

3.3.3 Internet Overview Flowchart Findings

Tables 13 through 15 document phase-specific inconsistencies discovered during the overview flowchart to checklist comparison effort.

Table 13 – Internet SDLC Planning and Analysis Phase

Overview Flowchart Sequence	Inconsistency Number	Description
2	1	Sequence number 2, *Conduct Consultations,* requires a decision process requirement that is not apparent on the checklist.
2	2	The *Conduct Consultation* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is, Meeting Notes (Stakeholder Concurrence).
3	3	Sequence number 3, *Conduct Business Activities,* requires a decision process requirement that is not apparent on the checklist.
3	4	The *Conduct Business Activities* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is, Meeting Notes (Business Activity Documentation).
6	5	The *Assess Risk* sequence requires that four categories of risk be assessed (business, authentication, privacy, and security). The checklist *Assess Risk* activity does not specify the four categories.
7	6	The *Define Project Scope* sequence work product name, Project Scope Agreement, differs from the work product identified on the checklist, which is (General) PSA.
8	7	Sequence number 8, *Determine Implementation Strategy,* requires a decision process requirement that is not apparent on the checklist.
N/A	8	The flowchart uses a large black rectangle between sequences 9 and 10 to indicate when *Release Activities Begin.* The checklist does not provide this information
14	9	The *Approval of Release Scope Package* sequence work product name, Approval and Sign-off by AC eGov SC, differs from the work product identified on the checklist, which is, Approval of Release-Specific Scope Package.

Table 14 – Internet SDLC Construction Phase

Overview Flowchart Sequence	Inconsistency Number	Description
Global	1	The flowchart indicates dependencies between sequences that are not evident on the corresponding checklist. For example: Sequence 19, *Develop Functional Specifications* transitions to step 20, *Develop Detailed Design*, and sequence 23, *Develop Master Test Plan*. Checklist activities are executed in numerical order.
22	2	The *Conduct Unit Testing, Usability, Accessibility, Pre-Validation* sequence work product name, Incremental Builds, differs from the work product identified on the checklist, which is United Tested Modules.
25	3	The name of sequence number 25, *Start Release Questionnaire,* does not agree with checklist activity requirement number 25, *Start OTSO Questionnaire.*
25	4	There is no work product called out for Sequence 25, *Start OTSO Questionnaire*. Checklist activity 25 identifies the OTSO Questionnaire work product.
26	5	There is no work product called out for Sequence 26, *Start Architecture Questionnaire*. Checklist activity 26 identifies the Architecture Questionnaire work product.
27	6	The *Conduct Security Meeting* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is Meeting Minutes.
28	7	The *OTSO Integrated Planning Meeting* sequence work product name, Meeting Notes, differs from the work product identified on the checklist, which is Meeting Minutes.
29	8	The *Conduct Accessibility Testing* sequence work product name, 508 Certification, differs from the work product identified on the checklist, which is Accessibility Findings Report.
31	9	There is no work product called out for Sequence 31, *Start Capacity Planning Activities*. Checklist activity 26 identifies the Capacity Management Plan work product.

Overview Flowchart Sequence	Inconsistency Number	Description
32	10	The *Conduct Final Verification* sequence work product name, VAR, Defect Report, SRC, differs from the work product identified on the checklist, which is Final Verification Products.
33	11	The *Conduct Final Integration Testing* sequence work product name, Certification, differs from the work product identified on the checklist, which is Integration and Environmental Testing Products.

Table 15 – Internet SDLC Post-Implementation Phase

Overview Flowchart Sequence	Inconsistency Number	Description
38	1	The name of sequence number 38, *Conduct Lessons Learned,* does not agree with checklist activity requirement number 25, *Conduct Lessons Learned/Process Evaluation*.

Lockheed Martin discovered no discrepancies between the Maintenance Phase overview flowchart and the corresponding checklist.

3.4 Findings Summary

Table 16 provides a summary of the overview flowchart inconsistencies.

Table 16 – Summary of Inconsistencies

SDLC Model	SDLC Model Phase	Total Number of Inconsistencies
Standard	Planning and Analysis	17
Standard	Construction	12
Standard	Post-Implementation	0
Standard	Maintenance	0
Collaboration	Planning and Analysis	4
Collaboration	Construction	5
Collaboration	Post-Implementation	4
Collaboration	Maintenance	1
Internet	Planning and Analysis	9
Internet	Construction	11
Internet	Post-Implementation	1
Internet	Maintenance	0

4.0 Recommendations

Two options are available for improving existing SDLC models:

1. Revising existing phase-specific overview flowcharts, phase-specific checklists, and model-specific templates to achieve consistency by providing one-to-one relationships, and
2. Creating a new phase-specific checklist that combines Standard, Collaboration, and Internet task, activity, and work product requirements to allow for tailoring based on individual project requirements.

4.1 Revise Existing SDLC Documentation

Revising existing SDLC overview flowcharts, phase-specific checklists, and model-specific templates will require:

1. Reviewing existing phase-specific checklists to ensure logical sequencing and execution of task, activity, and work product requirements,
2. Reviewing existing tracking and oversight task, activity, and work product requirements to ensure they are included in all four SDLC performance phases,
3. Revising existing phase-specific overview flowcharts to agree with phase-specific checklist task, activity, and work product requirements,
4. Revising existing SDLC model-specific templates to agree with checklist task, activity, and work product requirements,
5. Standardizing task, activity, and work product names between overview flowcharts, phase-specific checklists, and work products,
6. Developing, releasing, and controlling Software Development Plan (SDP) documents to include a Risk Management Plan, Quality Assurance Plan, Configuration Management Plan, Security Analysis Plan, and Microsoft Project SDLC,
7. Ensuring Capability Maturity Model (CMM) Level 3 Key Process Area (KPA) requirements are traceable to SDLC task, activity, and work products requirements,
8. Developing a Quality Assurance (QA) audit discipline to monitor and report compliance to SDLC phase-specific task, activity, and work product requirements, and
9. Ensuring compliance to SSA Project tailoring Guidelines prior to implementation of defined project plans.

4.2 Create a Master Phase-Specific Checklist

Creating a master SDLC phase-specific checklist will allow software development managers to tailor individual SDLC plans based project complexity and end-user needs.

Every effort should be made to:

1. Retain existing task, activity, and work product requirements that experience has shown are beneficial to the SSA SDLC process,
2. Eliminate task, activity, and work product requirements that do not add value to the SSA SDLC process, and

3. Blend task, activity, and work product requirements into the SDLC process that are directly traceable to CMM Levels KPAs.

The Systems Process Improvement team should have oversight of all activities that involve creating new master phase-specific checklists. The team should include experienced Standard, Collaboration, and Internet personnel in all decisions relating to new master phase-specific checklists.

Creating a master phase-specific checklist will require:

1. Reviewing Standard, Collaboration, and Internet SDLC models to identify common task, activity, and work product requirements that should be included in the new master checklist,
2. Identifying SSA level policies, directives, standards, and procedures that must be included in the SDLC process,
3. Ensuring Deputy Commissioner for System (DCS) objectives to improve the predictability of systems delivery, increase the productivity of the systems staff, and improve the quality of software products are included in the SDLC process,
4. Including Requirements Management tasks, activities, and work products in the SDLC process,
5. Including Software Project Planning tasks, activities, and work products in the SDLC process,
6. Including Software Project Tracking and Oversight tasks, activities, and work products in the SDLC process,
7. Including Software Subcontract Management tasks, activities, and work products in the SDLC process,
8. Including Software Quality Assurance tasks, activities, and work products in the SDLC process,
9. Including Software Configuration Management tasks, activities, and work products in the SDLC process,
10. Including Software Product Engineering tasks, activities, and work products in the SDLC process,
11. Including Inter- and Intra-Group Coordination tasks, activities, and work products in the SDLC process,
12. Including Peer Review tasks, activities, and work products in the SDLC process,
13. Including Integrated Software Management tasks, activities, and work products in the SDLC process,
14. Including project level Training tasks, activities, and work products in the SDLC process,
15. Developing, releasing, and controlling Software Development Plan (SDP) documents to include a Risk Management Plan, Quality Assurance Plan, Configuration Management Plan, Security Analysis Plan, and Microsoft Project SDLC Model,
16. Developing an independent Quality Assurance audit discipline to monitor and report compliance to SDLC phase-specific task, activity, and work product requirements,
17. Reviewing and revising the SSA Project Tailoring Plan,
18. Blending task, activity, and work product requirements into the SDLC process that are directly traceable to CMM Levels KPAs, and
19. Reviewing and updating PRIDE task, activity, and work product procedures to support new phase-specific checklist requirements.

5.0 Revision of Existing SDLC Documentation

Existing phase-specific overview flowcharts, phase-specific checklists, and model-specific templates will be revised in four phases for the three SDLC models (Standard, Collaboration, and Internet):

1. Planning and Analysis (P&A),
2. Construction,
3. Post-Implementation, and
4. Maintenance.

Task, activity, and work product requirements set forth in the existing Track and Oversight phase are blended into the remaining four SDLC phases.

5.1 REVISED STANDARD SDLC MODEL

Revised phase-specific checklists, model templates, and overview flowcharts for the Standard SDLC model are provided in the following sections:

5.1.1 Revised Phase-Specific Checklists

The following tasks, activities, and work product requirements are recommended during the Planning and Analysis SDLC phase:

Table 17 – Revised Standard Model, Phase-Specific Checklist: Planning and Analysis Phase

Sequence	Task	Activity	Work Product
1.	Project Kickoff	Start Project	Project Kickoff Documents
2.	Project Kickoff	Change Management (CM) Procedure	Change Management Log
3.	Project Kickoff	Document Business Process	Business Process Document and Issues
4.	Project Scoping	Conduct User & Business Analysis & Design	Inputs to High-Level Requirements
5.	Project Scoping	Document High-level Requirements	Requirements Document
6.	Project Scoping	Develop General Project Scope (PSA), if applicable	General PSA
7.	High-Level Design Approval	Determine Need for Design Alternatives	Documented Decision
8.	High-Level Design Approval	Produce Design Alternatives	Design Documents
9.	High-Level Design Approval	Determine Need for Off-the-Shelf (OTS) Evaluation	Documented Decision

Sequence	Task	Activity	Work Product
10.	High-Level Design Approval	Consider OTS Alternatives	Milestone Plan
11.	High-Level Design Approval	Complete/Submit Architecture Review Board (ARB) Questionnaire	Completed ARB Questionnaire
12.	High-Level Design Approval	Determine Need for ARB Review	ARB Questionnaire
13.	High-Level Design Approval	Conduct ARB Review	Presentation Documents
14.	Procurement (optional)	Determine Need for OTS Procurement	Documented Decision
15.	Procurement (optional)	Begin OTS Procurement	SSA-393 Purchase/Service/Stock Requisition form
16.	Project Sizing	Determine Systems Component Changes	List of Changes Document
17.	Project Sizing	Conduct Initial Function Point Analysis (FPA)	Function Point Analysis Results
18.	Project Sizing	Negotiate Release Size and Scope	Draft Release PSA
19.	Project Sizing	Determine Need to Bundle Initiatives	Bundling Decision
20.	Project Sizing	Bundle Initiatives	Bundled Release Information
21.	Project Planning	Obtain Approval to Proceed with Construction	IT Planning Decision
22.	Project Planning	Obtain Approval of Release Project Scope Agreement (rPSA)	Signed, Approved Release Project Scope Agreement
23.	Project Planning	Plan the Release	Planning Documents

The following tasks, activities, and work product requirements are recommended during the Construction SDLC phase:

Table 18 – Revised Standard Model, Phase-Specific Checklist: Construction Phase

Sequence	Task	Activity	Work Product
24.	Requirements and Design	Develop Detailed Functional Requirements (DFR)/ System Requirements Specification (SRS)	Detailed Functional Requirements / Specifications
25.	Requirements and Design	Develop Detailed Design	Design Documents
26.	Project Planning	Plan for Validation and Testing	Validation and Test Plan
27.	Project Planning	Prepare for Modernized Systems Operational Manuals (MSOM) and Program Operational Manual System (POMS)	Procedure Manuals
28.	Requirements and Design	Determine Need for Architecture Review Board (ARB) Design Review	Decision
29.	High-Level Design Approval	Conduct ARB Evaluation	ARB Findings
30.	Final Testing	Conduct Usability Testing	Usability Test Plan and Report
31.	Project Checkpoint	Conduct Second FPA	FPA Results
32.	Project Checkpoint	Conduct Milestone Review	Updated Planning Documents
33.	Requirements and Design	Conduct Design Activities	Design Documents
34.	Development and Unit Testing	Develop Code, Unit Test, Systems Test	Baselined Code (iteration, build, release)
35.	Development and Unit Testing	Conduct Validation	Validation Products
36.	Development and Unit Testing	Conduct OTSO Initial Planning Meeting	Initial Planning Meeting Notes
37.	Project Checkpoint	Conduct Milestone Review	Updated Planning Documents

Sequence	Task	Activity	Work Product
38.	Final Testing	Conduct Implementation ARB Evaluation	Baselined DFR or FS (iteration, build, release)
39.	Final Testing	Conduct Integration and Environment Testing	Tested Application
40.	Production	Certify that Software is Production Ready	Software Certification Message (e-mail)
41.	Production	Release to Training	Training environment software
42.	Production	Move to Production	Completed Application

The following tasks, activities, and work product requirements are recommended during the Post-Implementation SDLC phase:

Table 19 – Revised Standard Model, Phase-Specific Checklist: Post-Implementation Phase

Sequence	Task	Activity	Work Product
43.	Project Closure	Conduct Final FPA Count	Final FPA Count
44.	Documentation/ Refinement	Conduct Lessons Learned and Process Evaluation	Post Implementation Review Documents

The following tasks, activities, and work product requirements are recommended during the Maintenance SDLC phase:

Table 20 – Revised Standard Model, Phase-Specific Checklist: Maintenance Phase

Sequence	Task	Activity	Work Product
45.	Maintenance Management	Establish a Maintenance Management Agreement (MaMA)	Maintenance Management Agreement (MaMA)

5.1.2 Revised Standard Model Templates

5.1.2.1 PLANNING AND ANALYSIS PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Planning and Analysis SDLC phase:

Table 21 – Revised Standard Model Template: Planning and Analysis Phase

Item	Task	Activity	Checklist Subordinate Activities
1	Project Kickoff	Start Project	• Complete the Resource Accounting System (RAS) Activation template and forward to their AC Customer Relationship Representative (CRR) planning. Upon receipt, the RAS plan analyst will assign and activate new RAS codes. • Prepare the P&A schedule using Microsoft Project (MSP) and post on the central repository within one month of RAS activation. • Conduct a QA review of MSP. Schedule a meeting with the SPI representative and QA representative for management orientation. • Contact the Facilitators one week prior to the first meeting. • Convene the project team. • Identify and contact all stakeholders. • Review the IT Proposal to ensure an understanding of the business goals and customer expectations. • Define Teams, Roles, and responsibilities. • Develop communications plan. • Initiate project glossary (define terms used). • Contact Component Security Officer, include on the project team. • Contact the Usability Center to determine the user-centered activities the project will conduct and the level of support the Usability Center will provide. • Contact an Accessibility Consultant to

Item	Task	Activity	Checklist Subordinate Activities
			ensure that accessibility, and "Section 508 compliance" are reflected in the business case and understood by all stakeholders. • Ensure that everyone understands the stated goals of the project. • Determine how decisions will be made, documented and communicated.
2	Project Kickoff	Change Management (CM) Procedure	• Establish a procedure for resolving requested changes and provide procedure to project team members. • Conduct a QA review of CM Procedure.
3	Project Kickoff	Document Business Process	• Review existing materials and data. • Review business goals. • Identify the users and the processes that are affected. • Identify the participants and schedule the business process analysis activities. • Document work at the agency level (if multiple components affected). • Document work at the component/office level. • Document work at the role level. • Review the results of the business process analysis with the project sponsors.
4	Project Scoping	Conduct User & Business Analysis & Design	Analysis: • Review existing materials and data. • Review business goals. • Gather information from end users. • Conduct thorough evaluation of the existing system (if any). • Create descriptions of the user, task and context. • Conduct detailed task analysis (optional). • Analyze the target platform for implementation. • Document data needs. • Summarize findings. Design:

Item	Task	Activity	Checklist Subordinate Activities
			• Create high-level design. • Determine navigation and interaction model. • Create paper prototypes. • Document the new or revised business process. • Conduct walkthroughs with SSA staff and members of target audience. • Refine the prototype. • Create high-fidelity functional prototypes (optional). • Conduct usability tests with members of the target audience. • Refine the prototype. • Create instructional content. • Create data flow diagram and Entity Relationship Diagram (ERD). • Present the design.
5	Project Scoping	Document High-Level Requirements	• Review the information collected during the previous two activities. • Translate the user requirements into more formal requirements. • Document preliminary nonfunctional requirements. • Conduct walkthroughs of the use cases and requirements statements with SSA staff and members of target audience. • Refine and update the description of the requirements. Based on the results of the walkthroughs, revise to eliminate ambiguity and add missing items. • Create the high-level requirements document. • Update MSP schedule. • Develop Requirements Traceability Matrix (RTM).
6	Project Scoping	Develop General Project Scope (PSA),	• Define General PSA. • Negotiate General PSA.

Item	Task	Activity	Checklist Subordinate Activities
		if applicable	• Develop General PSA. • Obtain project team approval of General PSA. • Obtain management approval of General PSA.
7	High-Level Design Approval	Determine Need for Design Alternatives	• This is a decision point to determine if there are design options. • Evaluate business requirements for design options.
8	High-Level Design Approval	Produce Design Alternatives	• Produce design alternatives. • Flush out details of alternative design. • Prepare design document.
9	High-Level Design Approval	Determine Need for Off-the-Shelf (OTS) Evaluation	• Sponsor provides user and business requirements to the systems project manager. • A planning schedule is prepared to reflect the activities and timeframes involved with finding a solution. • Pre-solicitation activities begin to determine what is in the marketplace. • Conduct market research analysis, gap analysis, risk assessments, and business process analysis on the various products that they receive as a result of the CBD. • Conduct vendor demonstrations. • Presentations to the ARB concerning platform and architecture issues are given by systems personnel. • An alternative analysis is prepared using a matrix, which reflects the functionality of each product, the architecture that it supports, licensing, cost, etc. A brief synopsis is provided on each product demonstrated and the pros and cons of each are explained. The systems project manager makes a recommendation to senior management on what product would be best based on user and business requirements.

Item	Task	Activity	Checklist Subordinate Activities
10	High-Level Design Approval	Consider OTS Alternatives	• Establish criteria to address factors that are important to the project. • Conduct market research to determine what is available in the marketplace. • Visit other government agencies to preview products that are under consideration. • Visit vendor conference or trade shows to explore what is new. • Requests product pamphlets and brochures.
11	High-Level Design Approval	Complete/Submit Architecture Review Board (ARB) Questionnaire	• Complete and submit the ARB Questionnaire to the ARB staff.
12	High-Level Design Approval	Determine Need for ARB Review	• After the ARB questionnaire is completed, arrange for a presentation to the ARB. • Review and incorporate ARB recommendations to improve the project's compliance with SSA's IT architecture.
13	High-Level Design Approval	Conduct ARB Review	• Conduct ARB Review. Presentations address infrastructure components such as the operating system(s), DBMS, application development language/tools, network considerations, security, performance requirements, acquisition/budget issues, hardware requirements, and EWD.
14	Procurement (optional)	Determine Need for OTS Procurement	• Accumulate all data from market research, site visits, demonstrations, brochures, and pamphlets and formulate the findings into an alternative analysis document. • Make OTS procurement presentation to senior management.
15	Procurement (optional)	Begin OTS Procurement	• Develop Statement Of Work (SOW) from requirements document. • Include COTS/GOTS/MOTS work products (ROI, SEI, market research results, COTS risk assessment, milestone planning report). • Prepare procurements documents (Request

Item	Task	Activity	Checklist Subordinate Activities
			For Proposal (RFP), Request For Comment (RFC), and Request For Information (RFI). • Schedule and conduct vendor briefings/demonstrations. • Develop acceptance criteria. • Analyze documentation and data from alternative analysis, ROI, ARB results or recommendations, risk assessment. • Review of licensing, warranty, maintenance agreements.
16	Project Sizing	Determine Systems Component Changes	• Develop a list of component changes. • Manage and track component changes.
17	Project Sizing	Conduct Initial Function Point Analysis (FPA)	• Contact the Measurement Team for FPA. • Complete other forms of estimating: Analogy (comparing this effort to similar completed projects). • Complete other forms of estimating: past project experience, expert opinion, and or analogy. • Settle on the best project estimates of duration and effort. • Document the results in the Software Development Plan (SDP).
18	Project Sizing	Negotiate Release Size and Scope	• Develop a draft of the rPSA agreement. • Provide to project team for review. • Revise rPSA with team updates.
19	Project Sizing	Determine Need to Bundle Initiatives	• Determine if bundling initiatives is necessary.
20	Project Sizing	Bundle Initiatives	• Determine the number of releases needed to complete this project. • Determine if this bundle affects other production applications. • Update rPSA with information.
21	Project Planning	Obtain Approval to Proceed with Construction	• Obtain approval to begin the Construction Phase.
22	Project Planning	Obtain Approval of Release Project Scope	• Conduct a QA review of the rPSA. • Obtain rPSA approval from project team.

Item	Task	Activity	Checklist Subordinate Activities
		Agreement (rPSA)	• Obtain rPSA management approval.
23	Project Planning	Plan the Release	• Using function point analysis and a detailed estimating process, estimate timeframes for selected milestones. • Ensure that RAS codes for the construction phase have been activated. • Baseline requirements.

5.1.2.2 CONSTRUCTION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Construction SDLC phase:

Table 22 – Revised Standard Model Template: Construction Phase

Item	Task	Activity	Subordinate Activities
1	Requirements and Design	Develop Detailed Functional Requirements (DFR)/ System Requirements Specification (SRS)	• Identify and agree on a detailed understanding of the functionality to be designed and implemented. • Fully define system features needed to provide business and user requirements. • Fully define interface requirements, functional requirements, non-functional requirements, business rules, data requirements, screen requirements, and report requirements. • Review requirements already identified (business, user, and systems) to determine if they can be revised, refined, or decomposed. • Elicit data requirements to further define interface requirements, functional requirements, and/or business rules. • Map documented requirements to the preliminary design. • Revise/expand initial test cases identified and develop additional test cases for all the requirements that have been identified. • Identify missing, ambiguous, or incorrect requirements and revise them as appropriate. • Update MSP schedule. • Update RTM.
2	Requirements and Design	Develop Detailed Design	• Develop Detailed Design Documents.

Item	Task	Activity	Subordinate Activities
3	Project Planning	Plan for Validation and Testing	• Conduct validation planning meeting. • Document the validation plan. • Construct the validation testing environment and validation tool set. • Meet with appropriate staff to plan for accessibility and usability testing.
4	Project Planning	Prepare for Modernized Systems Operational Manuals (MSOM) and Program Operational Manual System (POMS)	• Determine need for MSOM and POMS. • Contact the MSOM and POMS staff when it is evident that support is required. • Provide key validation, publication, and implementation to the MSOM and POMS staff. • Identify target audience. • Ensure clearance and coordination of all policies and procedures with all interested components before issuance.
5	Requirements and Design	Determine Need for ARB Design Review	• Refine the ARB Questionnaire. • Present the selected design to the ARB. • Incorporate ARD recommendations into design documents.
6	High-Level Design Approval	Conduct ARB Evaluation	• Conduct ARB on final application. • Identify and document Lessons Learned.
7	Final Testing	Conduct Usability Testing	• Prepare a test plan. • Arrange for resources. • Recruit end-user test participants. • Prepare tests cases. • Prepare administrative test materials. • Prepare the test environment. • Prepare test participants. • Conduct tests and participant wrap-up sessions. • Conduct overall test debriefing and analyze results. • Prepare findings and recommendations report.

Item	Task	Activity	Subordinate Activities
8	Project Checkpoint	Conduct Second FPA	• Contact the Measurement Team for an FPA. • Conduct FPA and analyze results. • Provide refined FPA estimates to Project Team.
9	Project Checkpoint	Conduct Milestone Review	• Meet with stakeholders to provide project status: resource usage, schedule dates, and outstanding issues.
10	Requirements and Design	Conduct Design Activities	• Determine use of middleware. • Determine architecture. • Design database. • Create outline of software design. • Create software flow diagram. • Involve Software standards committee, if needed. • Determine involvement of management information and interaction with other systems. • Develop data matrices. • Define data transactions (e.g., events in VIP/CSR/DB2).

Item	Task	Activity	Subordinate Activities
11	Development and Unit Testing	Develop Code, Unit Test, Systems Test	• Write software application. • Prepare software documentation. • Share with customer at regular intervals (RAD/JAD). • Write stored procedures. • Write user interface code. • Write screen design. • Development region. • Create database. • Conduct 508/accessibility test, user testing, and iterative validation. • Register to use QA2. • Develop code for application calls to DB2 stored procedures. • Develop code for DB2 stored procedures. • Update MSP schedule. • Update RTM.
12	Development and Unit Testing	Conduct Validation	• Prepare System Release Certificate (SRC) to authorize the movement of the software to validation. • Run test cases in a controlled environment. • Review results of how the test cases processed to determine if the expected results occurred. • Return software to the developer for correction if the results are not as expected and the problem is in the software. • Reprocess the corrected software through validation. • Complete Validation Analysis Report (VAR) completed when validation has been successfully completed. • Release software to OTSO for integration and environmental testing.

Item	Task	Activity	Subordinate Activities
13	Development and Unit Testing	Conduct OTSO Initial Planning Meeting	• Complete appropriate OTSO questionnaires. • Circulate questionnaires with within DCS and OTSO to ensure that the project has adequately addressed system security issues, configuration issues, database issues, and integration issues. • OTSO schedules and conducts the integration-planning meeting.
14	Project Checkpoint	Conduct Milestone Review	• Notify schedule milestone reviews with stakeholders and customer participants. • Address commitments, plans, and status of the project activities. • Address project risks. • Discuss the schedule and evaluate the impact of late or early completion on future activities and milestones. • Identify and document issues, action items, and decisions. • Update the SDP and MSP schedule as necessary.
15	Final Testing	Conduct Implementation ARB Evaluation	• Provide an architecture diagram depicting the components of the proposed. • Complete the application information form for architecture review two weeks in advance of the meeting date. • Supply an "electronic" copy of handouts to the EITA staff one week in advance of the evaluation.

Item	Task	Activity	Subordinate Activities
16	Final Testing	Conduct Integration and Environment Testing	• Initiate the event by sending a request to establish a CAPRS/CMS record and change control board record. • DIET personnel lead the testing and software certification effort. • If any performance or integration problems are detected, the software is returned to the developers for correction, re-validated, and resubmitted for DIET testing. OTSO software tracking records are established (CAPRs/CMS, change control board, and software release tracking system). • DIET scripting team develops automated testing scripts for the software. • DIET installation team installs the scripts and software in the DIET test lab. • Conduct integration testing on four major configurations (Field Office, Office of Hearings and Appeals, Disability Determination Service, and Processing Service Center) for at least one full calendar week. • Send a software certification message via e-mail to the project's sponsor/manager. • Update MSP schedule.
17	Production	Certify that Software is Production Ready	• Ensure all required testing has been successfully completed and the software has been certified.
18	Production	Release to Training	• Release training material and guidelines to training component.
19	Production	Move to Production	• Migrate the application and associated security elements to the production environment. • Perform CM audit.

5.1.2.3 POST-IMPLEMENTATION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Post-Implementation SDLC phase:

Table 23 – Revised Standard Model Template: Post-Implementation Phase

Item	Task	Activity	Subordinate Activities
1	Project Closure	Conduct Final FPA Count	• Schedule a project team meeting to perform the final Function Point Analysis (FPA). • Correct the detailed RAS project report. • Record the total functions and work months in the Measurement Date Base to support future planning efforts.
2	Documentation/ Refinement	Conduct Lessons Learned and Process Evaluation	• Convene a meeting to evaluate what worked and what didn't throughout the life of the project. • Identify and distribute specific processes, procedures, and activities identified by the PM for evaluation prior to the meeting. • Consider processes and procedures that the project used and activities that were performed beyond those suggested by the PM and SDLC model. • Identify processes, procedures, or activities modified during the life of the project. • Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques. • Submit recommendations to the systems process improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.

5.1.2.4 MAINTENANCE PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Maintenance SDLC phase:

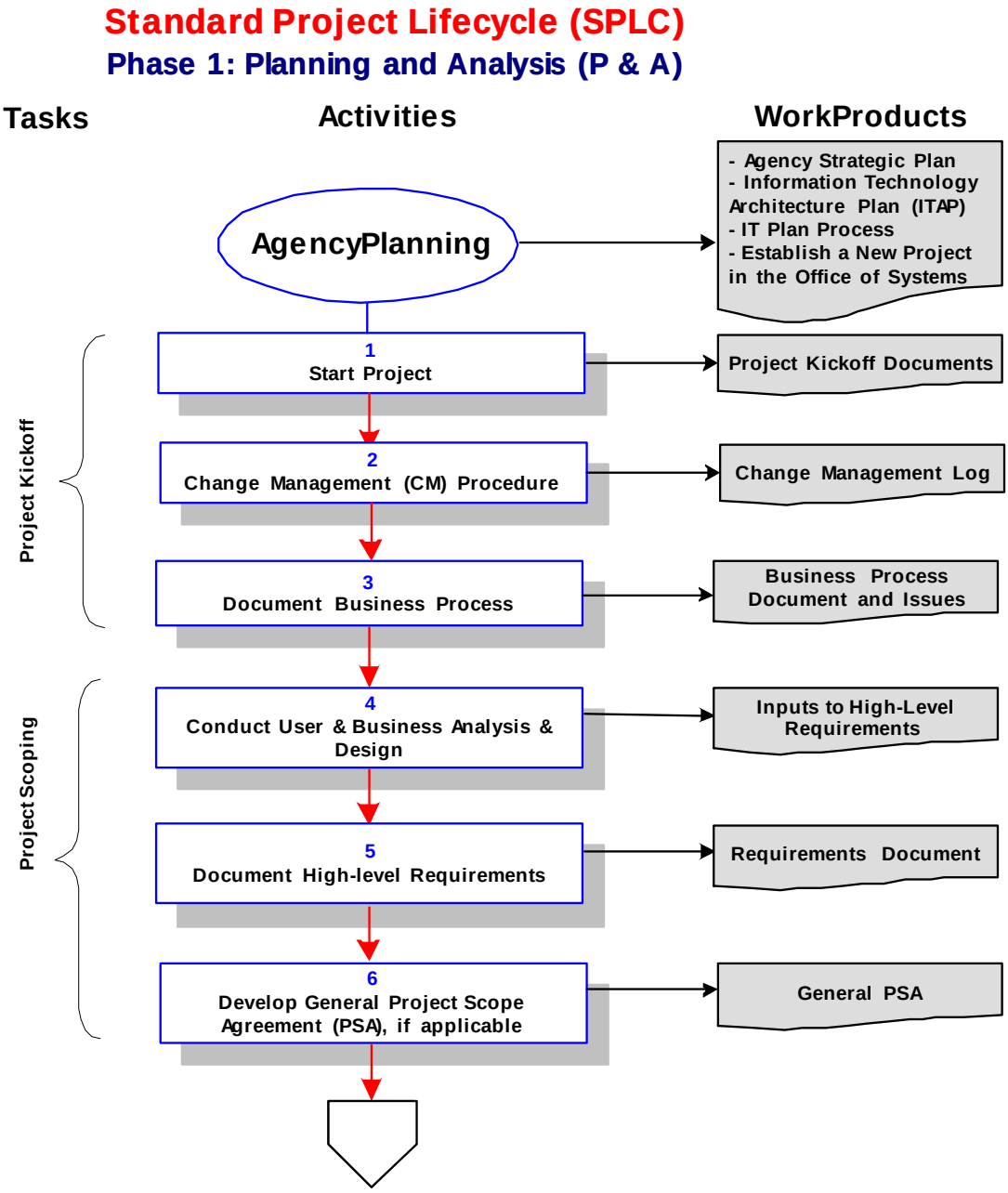
Table 24 – Revised Standard Model Template: Maintenance Phase

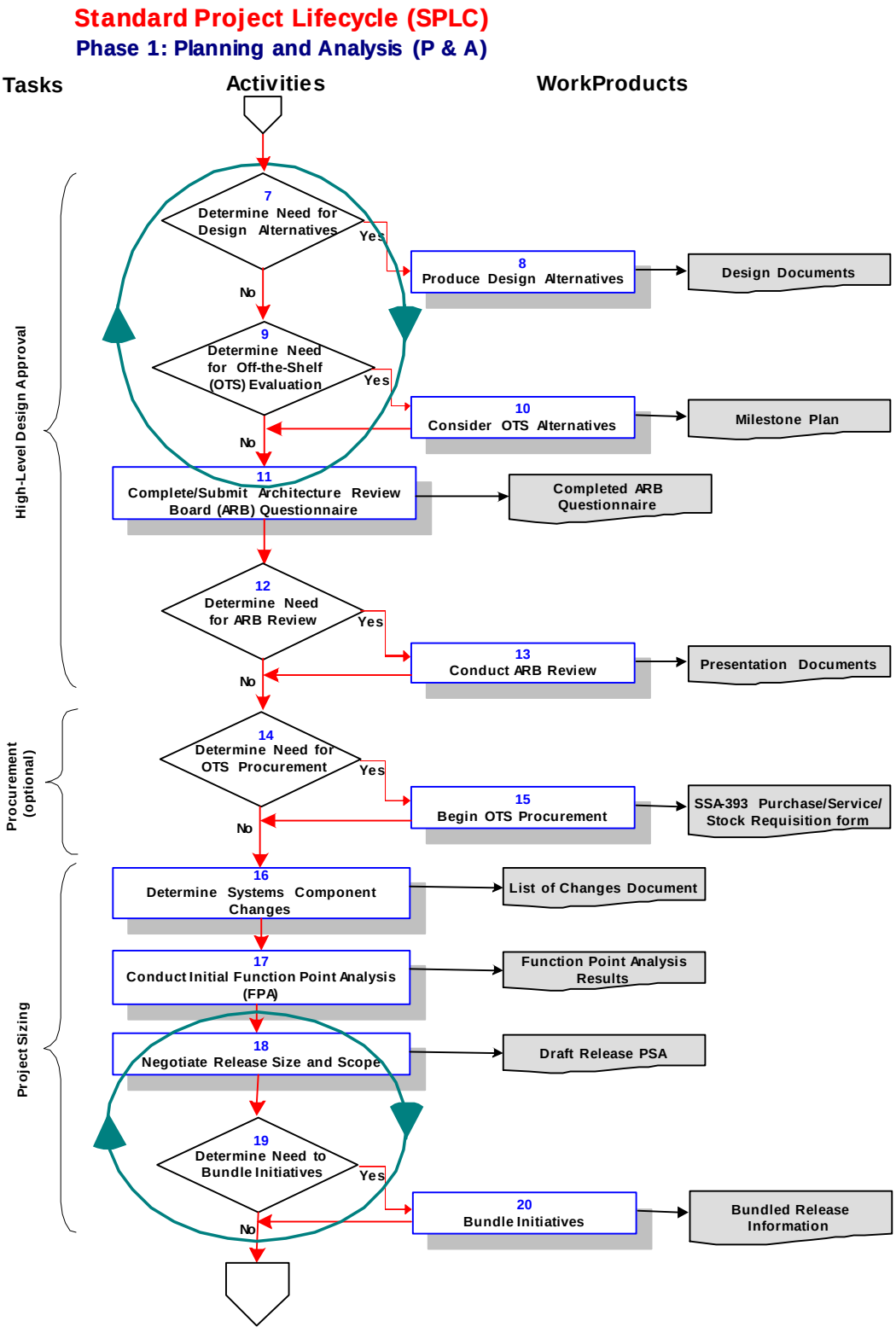
Item	Task	Activity	Checklist Subordinate Activities
1	Maintenance Management	Establish a Maintenance Management Agreement (MaMA)	• Develop Software Maintenance Plan (SMP). • Complete the MaMA. • Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change. • Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability. • Manage changes to the MaMA.

5.1.3 Revised Phase-Specific Overview Flowcharts

5.1.3.1 PLANNING AND ANALYSIS

The following overview flowchart is recommended for the Planning and Analysis SDLC phase:




Standard Project Lifecycle (SPLC)
Phase 1: Planning and Analysis (P & A)
Tasks
Activities
WorkProducts
High-Level Design Approval
Procurement (optional)
Project Sizing
7 Determine Need for Design Alternatives
Yes
No
8 Produce Design Alternatives
Design Documents
9 Determine Need for Off-the-Shelf (OTS) Evaluation
Yes
No
10 Consider OTS Alternatives
Milestone Plan
11 Complete/Submit Architecture Review Board (ARB) Questionnaire
Completed ARB Questionnaire
12 Determine Need for ARB Review
Yes
No
13 Conduct ARB Review
Presentation Documents
14 Determine Need for OTS Procurement
Yes
No
15 Begin OTS Procurement
SSA-393 Purchase/Service/ Stock Requisition form
16 Determine Systems Component Changes
List of Changes Document
17 Conduct Initial Function Point Analysis (FPA)
Function Point Analysis Results
18 Negotiate Release Size and Scope
Draft Release PSA
19 Determine Need to Bundle Initiatives
Yes
No
20 Bundle Initiatives
Bundled Release Information

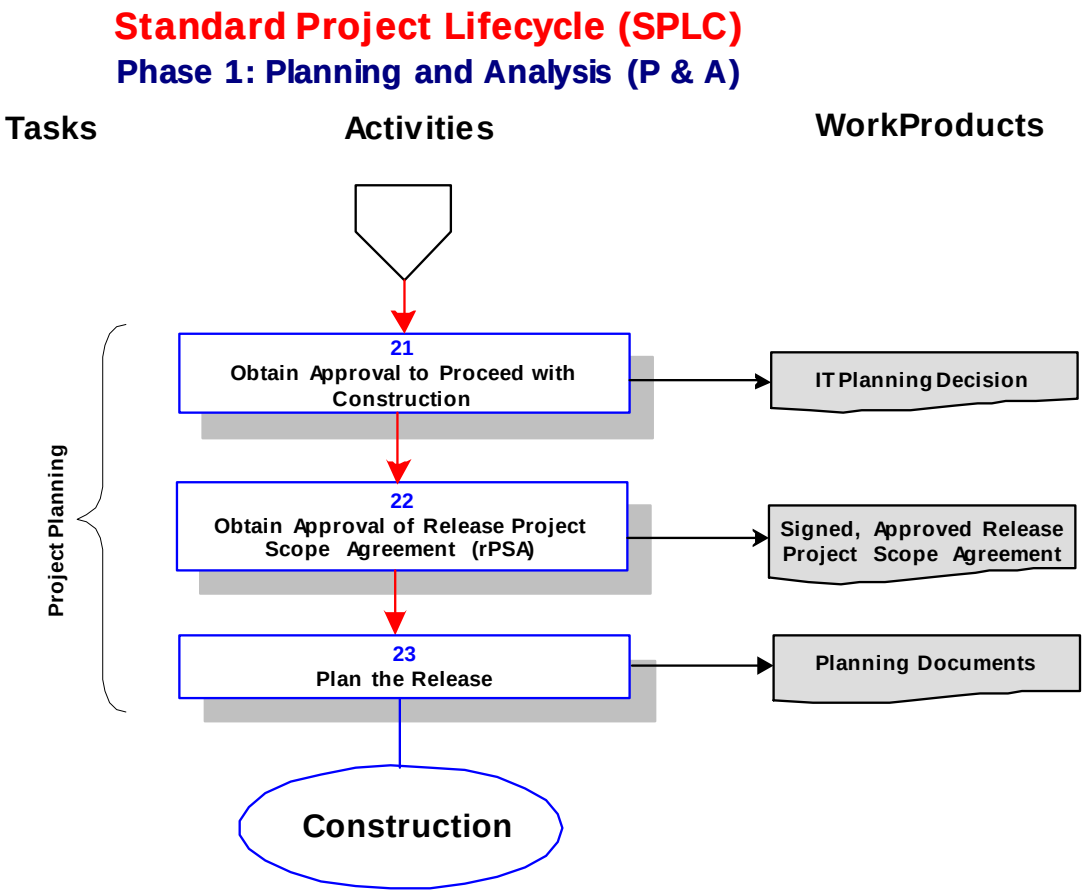
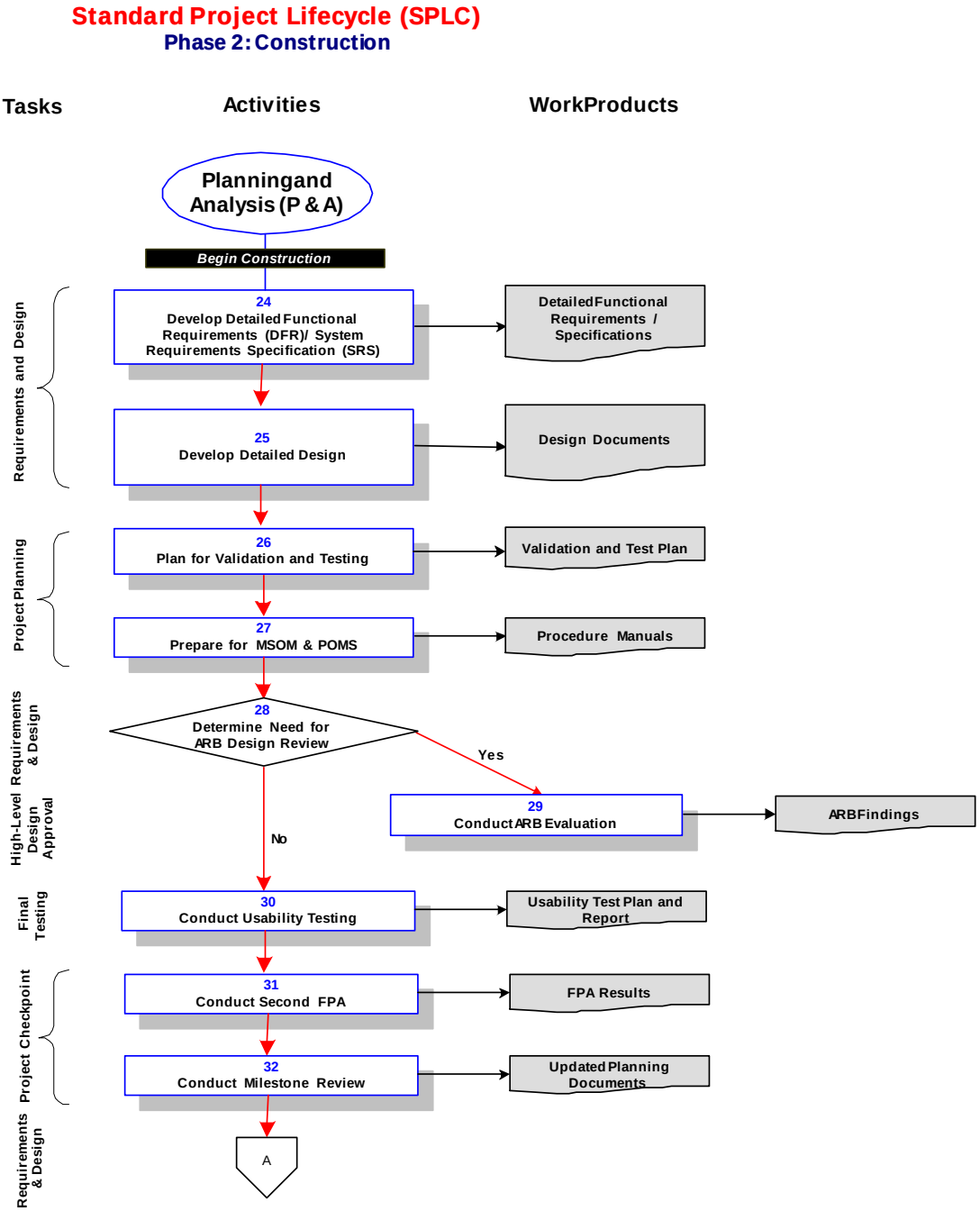


Figure 12: Revised Standard Model Overview Flowchart: P&A Phase

5.1.3.2 CONSTRUCTION

The following overview flowchart is recommended for the Construction SDLC phase:



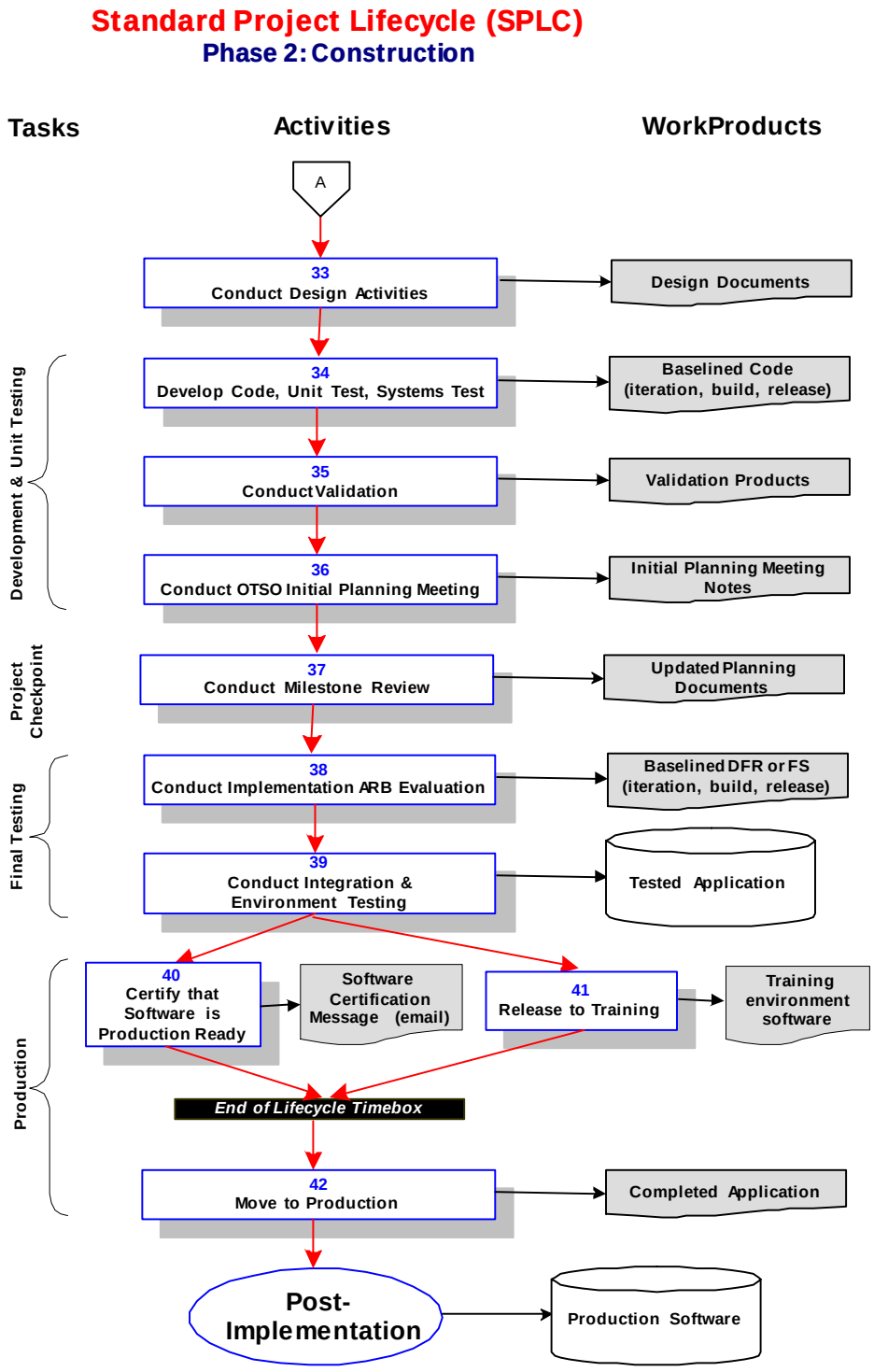


Figure 13: Revised Standard Model Overview Flowchart: Construction Phase

5.1.3.3 POST-IMPLEMENTATION

The following overview flowchart is recommended for the Post-Implementation SDLC phase:

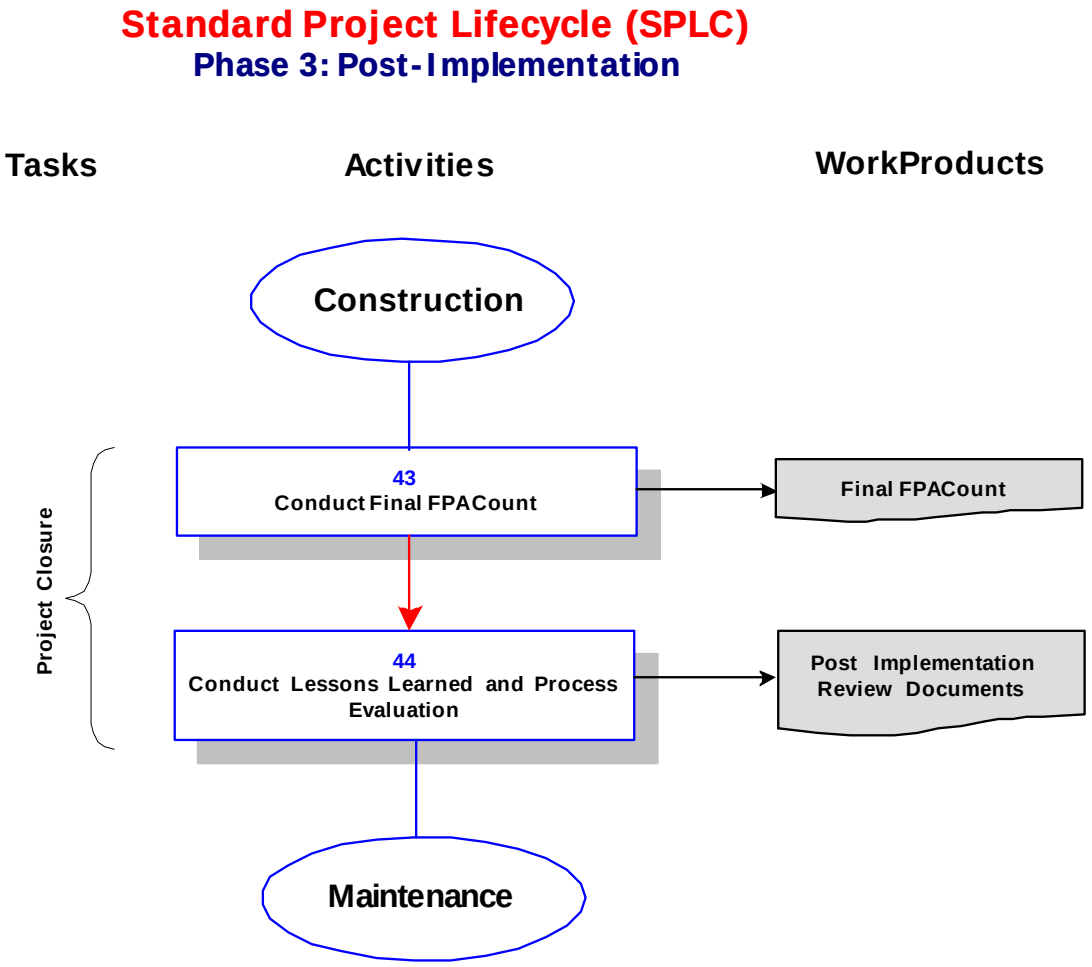


Figure 14: Revised Standard Model Overview Flowchart: Post-Implementation Phase

5.1.3.4 MAINTENANCE

The following overview flowchart is recommended for the Maintenance SDLC phase:

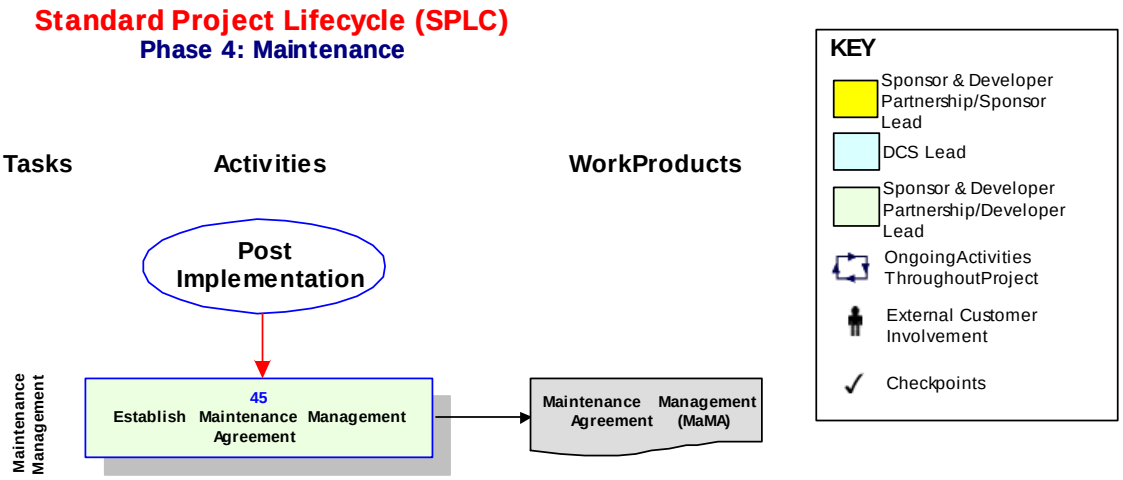


Figure 15: Revised Standard Model Overview Flowchart: Maintenance Phase

5.2 REVISED COLLABORATION SDLC MODEL

Revised phase-specific checklists, model templates and overview flowcharts for the Collaboration SDLC model are provided in the following sections:

5.2.1 Revised Phase-Specific Checklist

The following tasks, activities, and work product requirements are recommended during the Planning and Analysis SDLC phase:

Table 25 – Revised Collaboration Model, Phase-Specific Checklist: Planning and Analysis Phase

Sequence	Task	Activity	Work Product
1.	Project Kickoff	Statement of Business Need	IT Proposal / Project Initiation Statement
2.	Project Kickoff	Start Project	Project Kickoff Documents
3.	Project Scoping	Define Project Scope and High-Level Requirements	High-Level Requirements
4.	Project Sizing	Conduct Function Point Analysis (FPA)	Function Point Analysis Results
5.	High-Level Design Approval	Create High-Level Design documents	Design Documents
6.	Procurement	Procurement/Budget Activities	SSA-393 Purchase/Service/Stock Requisition form
7.	Project Scoping	Present to Architecture Review Board (ARB)	ARB Questionnaire & Findings
8.	Project Planning	Conduct Appropriate Security Activities	Security Reports and Requests
9.	Project Planning	Conduct Capacity Planning Activities	Capacity Planning Questionnaire/Related Documents
10.	Project Planning	Develop Project Plan	Project Plan (SDP)

The following tasks, activities, and work product requirements are recommended during the Construction SDLC phase:

Table 26 – Revised Collaboration Model, Phase-Specific Checklist: Construction Phase

Sequence	Task	Activity	Work Product
11.	Requirements and Design	Conduct Requirements Analysis	DFR/Software Specs
12.	Requirements and Design	Conduct Appropriate Database Activities	Data and Database Related Documents
13.	Requirements and Design	Conduct Design Activities	Design Documents
14.	Requirements and Design	Plan for Validation and Testing	Validation and Testing Plan
15.	Development	Develop Software	Unit Tested Code
16.	Testing	Conduct Validation and Verification	Validation Products
17.	Testing	Conduct Integration and Environmental Testing	Integration and Environmental Testing Products
18.	Production	Move to Production	Completed Application

The following tasks, activities, and work product requirements are recommended during the Post-Implementation SDLC phase:

Table 27 – Revised Collaboration Model, Phase-Specific Checklist: Post-Implementation Phase

Sequence	Task	Activity	Work Product
19.	Project Closure	Finalize Documentation	Finalized Documentation
20.	Project Closure	Conduct Lessons Learned/Process Evaluation	Lessons Learned/Process Evaluation

The following tasks, activities, and work product requirements are recommended during the Maintenance SDLC phase:

Table 28 – Revised Collaboration Model, Phase-Specific Checklist: Maintenance Phase

Sequence	Task	Activity	Work Product
21.	Maintenance Management	Establish a Maintenance Management Agreement (MaMA)	Maintenance Management Agreement (MaMA)

5.2.2 Revised Collaboration Model Template

5.2.2.1 PLANNING AND ANALYSIS PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Planning and Analysis SDLC phase:

Table 29 – Revised Collaboration Model Template: Planning and Analysis Phase

Item	Task	Activity	Checklist Subordinate Activities
1	Project Kickoff	Statement of Business Need	• An IT Proposal Template is to be completed by the Sponsor component championing an initiative to be included for consideration in the IT Systems Plan Prioritization.

Item	Task	Activity	Checklist Subordinate Activities
2	Project Kickoff	Start Project	• Complete the Resource Accounting System (RAS) activation template and forward to the AC Customer Relationship Representative (CRR). • Prepare the planning and analysis schedule (using MS Project) and post on the central repository within one month of RAS activation. • Contact facilitators one week prior to the first meeting. • Convene project team to ensure that everyone understands the stated goals of the project. • Identify and contact all stakeholders (e.g., Security, Infrastructure). • Review the IT proposal. • Define teams, roles, and responsibilities. • Develop communications plan to determine how decisions will be made, documented, and communicated. • Initiate project glossary (define terms used). • Develop the MS Project schedule for planning and analysis. • Contact SPI/QA representative and schedule an SPI orientation, including a review of the lifecycle for the entire team. • Contact component security officer, include on the project team. • Contact a user centered design consultant and accessibility consultant to ensure that accessibility, and "Section 508 compliance" are reflected in the business case and understood by all stakeholders.

Item	Task	Activity	Checklist Subordinate Activities
3	Project Scoping	Define Project Scope and High-Level Requirements	• Develop General Project Scope Agreement (PSA). • Negotiate scope. • Obtain team approval of PSA. • Obtain final approval of PSA. • Identify/refine all business requirements. • Define and prioritize user needs. • Identify data needs (including identifying all the databases to be accessed). • Identify reports needed. • Identify potential Systems interfaces. • Conduct initial session with DDBS (if database involved). • Identify SUMS/MI needs. • Determine high-level security requirements. • Produce draft requirements document. • Get project team approval of requirements.
4	Project Sizing	Conduct Function Point Analysis (FPA)	• Conduct FPA and analyze results. • Provide estimates based on FPA to Collaboration Core Team
5	High-Level Design Approval	Create High-Level Design documents	• Identify platform alternatives and selected/preferred platform. • Consult with Architecture staff.
6	Procurement	Procurement/Budget Activities	• Identify hardware and software needs for development environment (depends on platform selected). • Begin procurement activities. • Complete “Section 508 compliance” documentation for hardware and software. • Prepare project “other objects” budget request (travel).
7	Project Scoping	Present to Architecture Review Board (ARB)	• Complete ARB Questionnaire. • Schedule presentation. • Present to ARB.

Item	Task	Activity	Checklist Subordinate Activities
8	Project Planning	Conduct Appropriate Security Activities	• Conduct various security meetings. • Conduct security risk assessment – FRAP (Facilitated Risk Assessment Process). • Request for SACs and ObjectIDs for ESI/top secret access/ security access. • Determine owners of programmatic data (e.g., IRS). • Submit a Safeguard Procedures Report (SPR), or an addendum to existing ones SSA already has with IRS for the use of such data. • Submit various 120s and 613s for access to Endevor, SEF DB2, integration, training, and production regions, as well as appropriate profiles. • Request new systems of records. • Consider privacy issues. • Ensure that business or systems project manager or regional security officer provide SSNs to central office for testing, to ensure any inputs are properly appearing on audit trails, and are thus subject to the Comprehensive Integrity Review Process (CIRP) reviews. • Determine if data is available from SSA Access to State Records Online (SASRO) agreement. • Request profile changes, as needed.
9	Project Planning	Conduct Capacity Planning Activities	• Establish the level of service required by groups of users of this system (availability, transaction response time, transaction activity). • Define initial capacity requirements in the of high-level requirements document. • Determine if this process is covered under current business continuity plan. If not, initiate actions to incorporate into the business continuity plan.

Item	Task	Activity	Checklist Subordinate Activities
			• Determine requirements for procurement of hardware needed to support development and production. • Develop a repository of service level objectives associated with the approved hardware platforms to cover planned levels of hardware availability, application availability, transaction response time, and system support. • Conduct a series of meetings to consolidate the user's service level requirements, the operations component's service level objectives and the results of application tuning to create a Service Level Agreement (SLA). • Construct testing and perform analysis to support the application development process. Identify and provide performance recommendations and recommendations for infrastructure changes. Develop the preliminary backup/recovery plan to ensure process and data integrity. • Evaluate the performance of the application and the transactions contained within the application. • Identify and provide performance recommendations and recommendations for infrastructure changes. Develop the preliminary backup/recovery plan to ensure process and data integrity. • Provide recommendations for changes during the entire development process. • Provide developers with information necessary to make the application transactions. • For high risk application, determine the impact of high volume activity on the application and infrastructure.

Item	Task	Activity	Checklist Subordinate Activities
			• Implement routine data collection processes to monitor key metrics to facilitate the reporting of application resource utilization and transaction response time.
10	Project Planning	Develop Project Plan	• Create Project Schedule. • Create Software Development Plan. • Create Collaboration MSP template in Excel format.

5.2.2.2 CONSTRUCTION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Construction SDLC phase:

Table 30 – Revised Collaboration Model Template: Construction Phase

Item	Task	Activity	Subordinate Activities
1	Requirements and Design	Conduct Requirements Analysis	• Review the business requirements. • Identify data needs. • Document business logic. • Identify desired outputs (e.g., notices, data, Management Information (MI), data to other databases/ applications, etc.). • Conduct user needs analysis/use case analysis. • Identify/document logical data model. • Determine involvement of management information and interaction with other systems. • Refine non-functional requirements (flexibility, scalability, usability/accessibility). • Identify preliminary architecture model. • Identify design and requirements for "middleware" utilities. • Make DASD request. • Develop backup/recovery plan. • Develop service level objectives. • Develop screen layouts, batch record descriptions, and report layouts. • Create Data Flow Diagram (DFD) at level 1.0 or lower with descriptions of processes and data flows. • List functional, user interface, external systems interface, system interface requirements.

Item	Task	Activity	Subordinate Activities
2	Requirements and Design	Conduct Appropriate Database Activities	• Conduct database kick-off meeting. • Develop logical data model (OESAE/DEADA). • Develop physical data model (OESAE/DDBS). • Develop logical data design. • Develop physical database design. • Develop Data Matrices. • Create Data transaction definitions - Creation of the actual DB2 databases (OESAE/DDBS). • Create physical database. • Make/update DASD request.
3	Requirements and Design	Conduct Design Activities	• Determine use of middleware. • Determine architecture. • Design database. • Create outline of software design. • Create software flow diagram. • Software standards committee, if needed. • Involvement of management information and interaction with other systems. • Develop data matrices. • Define data transactions (e.g., events in VIP/CSR/DB2).
4	Requirements and Design	Plan for Validation and Testing	• Conduct a validation Kickoff meeting. • Develop the Validation plan. • Define the Environment. • Determine security access strategy. • Define validation scenarios and test cases. • Request Access to VTTS. • Request Access to PAIRS. • Prepare for Validation Analysis Reports (VARs).

Item	Task	Activity	Subordinate Activities
5	Development	Develop Software	• Write software application. • Prepare software documentation. • Share with customer at regular intervals (RAD/JAD). • Write stored procedures. • Write user interface code. • Write screen design. • Development region. • Create database. • Perform unit software testing (508/accessibility testing, user testing, and iterative validation). • Register to use QA2 (formerly SRCOL). • Develop code for application calls to DB2 stored procedures. • Develop code for DB2 stored procedures. • Conduct OTSO initial Planning meeting.
6	Testing	Conduct Validation and Verification	• Run validation tests and track results. • Correct as required and track exceptions. • Certify software. • Prepare Validation Analysis Report (VAR). • Obtain 508 certification. • Complete SRC. • Release software to OTSO.
7	Testing	Conduct Integration and Environmental Testing	• Complete Change Control Board (CCB) Release Form for DIET.
8	Production	Move to Production	• Ensure that all required testing has been successfully completed. • Acquire certification of the application. • Migrate the application software and associated security elements to the production environment.

5.2.2.3 POST-IMPLEMENTATION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Post-Implementation SDLC phase:

Table 31 – Revised Collaboration Model Template: Post-Implementation Phase

Item	Task	Activity	Subordinate Activities
1	Project Closure	Finalize Documentation	• Review project documentation, finalize, and package all appropriate documentation. • Complete the Operational and User Documentation.
2	Project Closure	Conduct Lessons Learned/Process Evaluation	• Convene the project team to evaluate the overall internal business process to determine what worked, what didn't work, and how SSA could improve its approach to other applications. • Utilize an experienced facilitator to conduct process review sessions, if desired. • Invite the SPI/measurement team to conduct a final function point count using this project as an example to calibrate its estimating tool for similar projects in the future. • Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques. • Make a final presentation to the ARB to enable the ARB to identify new architecture models needed or to update existing models in its repository. • Submit recommendations to the Systems Process Improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.

5.2.2.4 MAINTENANCE PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Maintenance SDLC phase:

Table 32 – Revised Collaboration Model Template: Maintenance Phase

Item	Task	Activity	Checklist Subordinate Activities
1	Maintenance Management	Establish a Maintenance Management Agreement (MaMA)	• Develop Software Maintenance Plan (SMP). • Complete the MaMA. • Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change. • Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability. • Manage changes to the MaMA.

5.2.3 Revised Phase-Specific Overview Flowcharts

5.2.3.1 PLANNING AND ANALYSIS

The following overview flowchart is recommended for the Planning and Analysis SDLC phase:

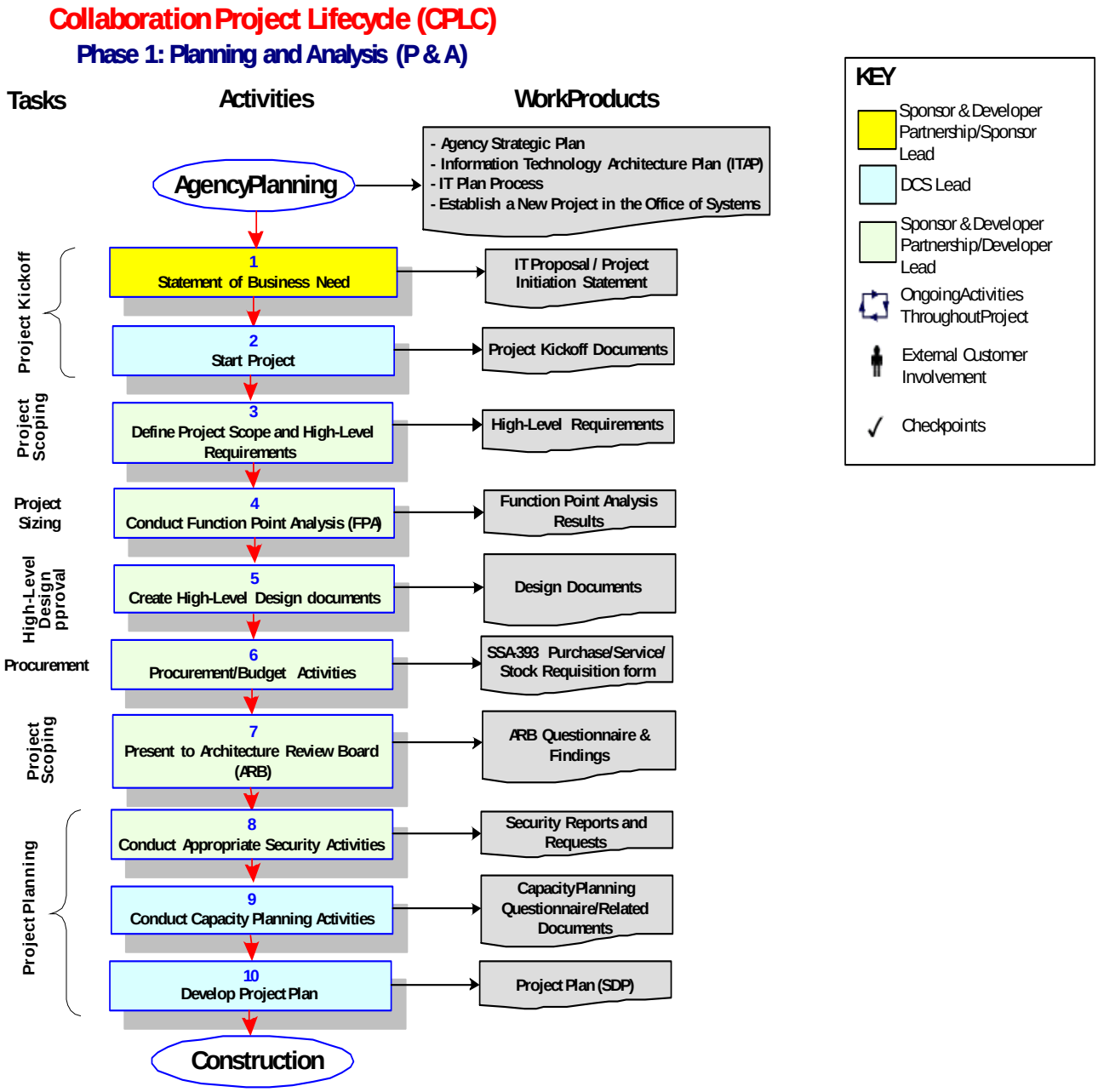


Figure 16: Revised Collaboration Model Overview Flowchart: P&A Phase

5.2.3.2 CONSTRUCTION

The following overview flowchart is recommended for the Construction SDLC phase:

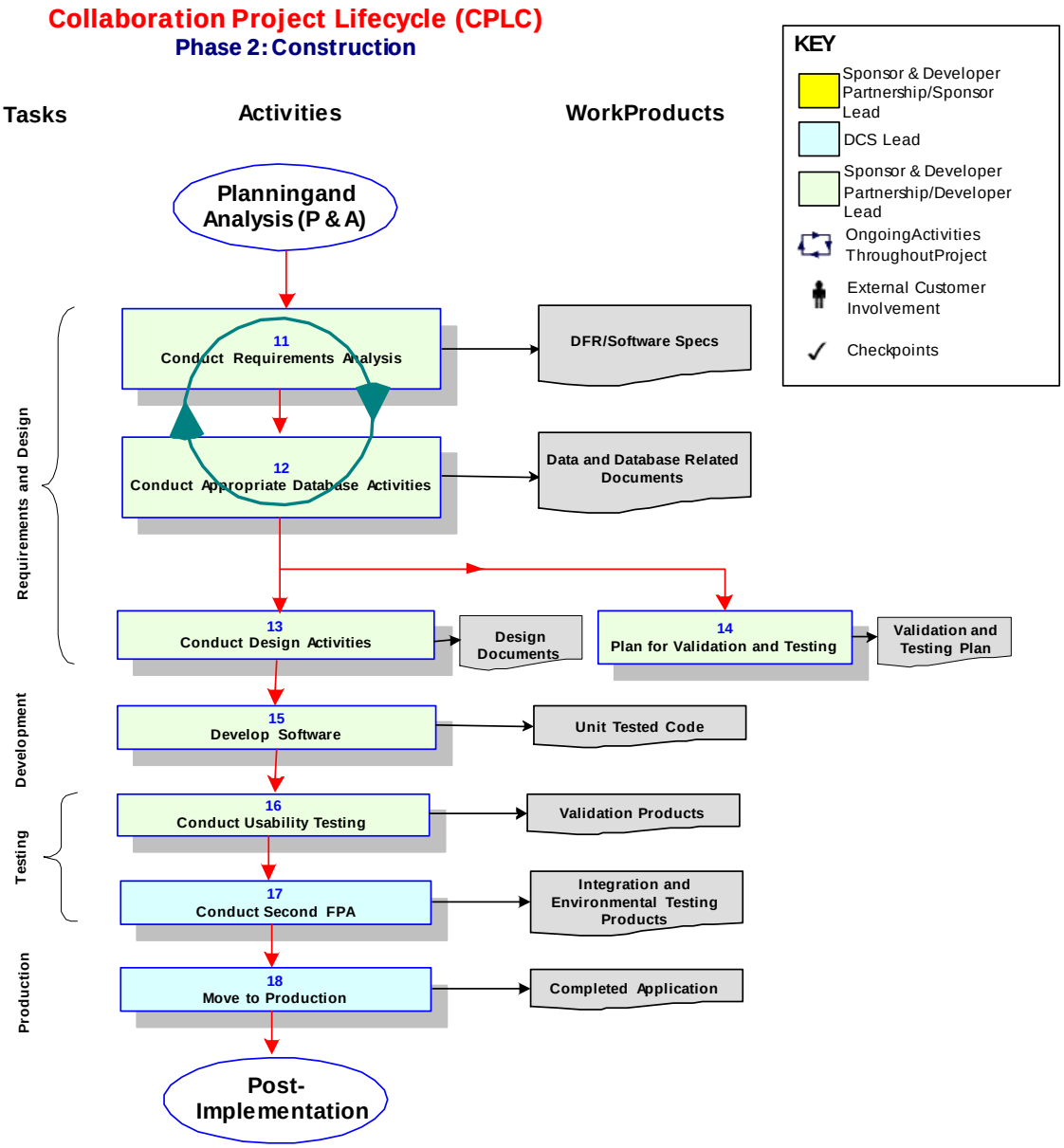


Figure 17: Revised Collaboration Model Overview Flowchart: Construction Phase

5.2.3.3 POST-IMPLEMENTATION

The following overview flowchart is recommended for the Post-Implementation SDLC phase:

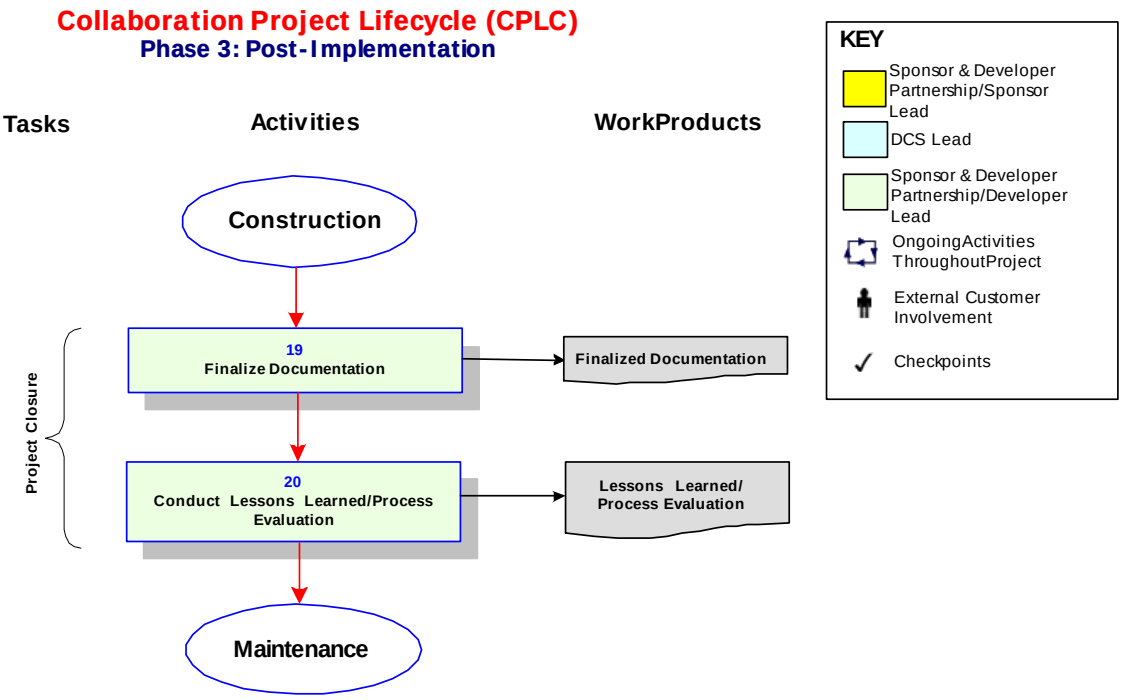


Figure 18: Revised Collaboration Model Overview Flowchart: Post-Implementation Phase

5.2.3.4 MAINTENANCE

The following overview flowchart is recommended for the Maintenance SDLC phase:

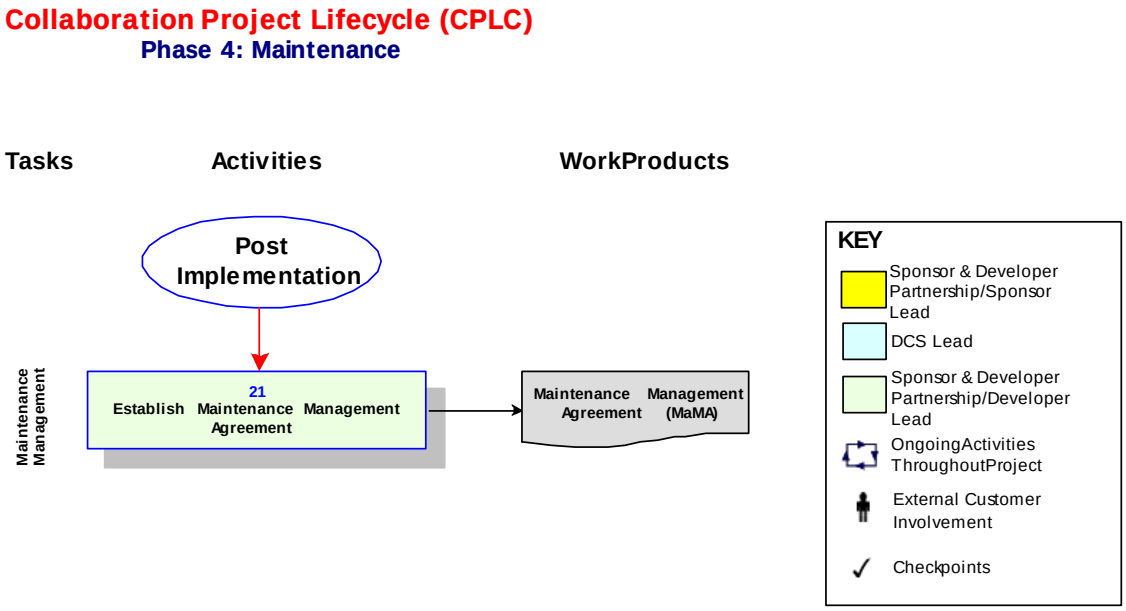


Figure 19: Revised Collaboration Model Overview Flowchart: Maintenance Phase

5.3 REVISED INTERNET SDLC MODEL

Revised phase-specific checklists, model templates and overview flowcharts for the Internet SDLC model are provided in the following sections:

5.3.1 Revised Phase-Specific Checklist

The following tasks, activities, and work product requirements are recommended during the Planning and Analysis SDLC phase:

Table 33 – Revised Internet Model, Phase-Specific Checklist: Planning and Analysis Phase

Sequence	Task	Activity	Work Product
1.	Initiation	Start Approved Project	Project Kickoff Documents
2.	Initiation	Conduct Consultations	Meeting Notes (Stakeholder Concurrence)
3.	Initiation	Conduct Business Activities	Meeting Notes (Business Activity Documentation)
4.	Initiation	Document Business Process, Business and User Requirements	Business Process, Business and User Requirements
5.	Initiation	Identify OMB Clearance Activities	OMB Clearance Documents
6.	Scoping	Assess Risks	Risk Assessment/Mgmt. Plan
7.	Scoping	Define Project Scope	(General) PSA
8.	Scoping	Determine Implementation Strategy	Project Strategy
9.	Scoping	Conduct Milestone Review	Meeting Notes (Approval)
10.	Initial Design	Determine if Outside Expertise is Needed for Developing/Creating Application	Decision
11.	Initial Design	Develop Release Scope Package	Release Scope Package
12.	Initial Design	Conduct High Level Project Estimating	Project estimates for use in the Release Project Scope Agreement.
13.	Approval	Obtain Team Approval	Approval (By Project Team)
14.	Approval	Obtain Sponsoring Component Approval	Approval (by Sponsoring Component)

Sequence	Task	Activity	Work Product
15.	Approval	Identify ROI Captured for Release	Return on Investment (ROI)
16.	Approval	Approval of Release Scope Package	Approval of Release-Specific Scope Package
17.	Approval	Hand-off to Systems Project Manager (SPM)	Hand-off

The following tasks, activities, and work product requirements are recommended during the Construction SDLC phase:

Table 34 – Revised Internet Model, Phase-Specific Checklist: Construction Phase

Sequence	Task	Activity	Work Product
18.	Planning	First Function Point Analysis (FPA)	Refined Estimate of Size/Duration
19.	Planning	Plan the Release	Preliminary SDP
20.	Planning	Create Schedule	MSP Schedule
21.	Iterative Development Process	Develop Detailed Functional Specifications	Functional Specifications
22.	Iterative Development Process	Develop Detailed Design	Design Documents
23.	Iterative Development Process	Conduct Development Activities	Code, Activity Code Review, MSOMS (as needed)
24.	Iterative Development Process	Conduct Unit Testing, Usability, Accessibility, Pre-Validation	Unit Tested Modules
25.	Iterative Development Process	Develop Master Test Plan	Master Test Plan
26.	Iterative Development Process	Plan for Validation	Validation Plan & Test Scripts/Cases
27.	Prepare for Final Testing	Start OTSO Questionnaire	OTSO Questionnaire
28.	Prepare for Final Testing	Start Architecture Questionnaire	Architecture Questionnaire
29.	Prepare for Final Testing	Conduct Security Meeting	Meeting Minutes
30.	Prepare for Final Testing	OTSO Integrated Planning Meeting	Meeting Minutes
31.	Prepare for Final Testing	Conduct Accessibility Testing	Accessibility Findings Report
32.	Prepare for Final Testing	Conduct Usability Testing	Usability Findings
33.	Prepare for Final Testing	Start Capacity Planning Activities	Capacity Management Plan (CMP)
34.	Final Testing	Conduct Final Validation	Final Validation Products
35.	Final Testing	Conduct Final Integration Testing	Integration and Environmental Testing Products
36.	Move to Production	Release to Production	Production Ready Software

The following tasks, activities, and work product requirements are recommended during the Post-Implementation SDLC phase:

Table 35 – Revised Internet Model, Phase-Specific Checklist: Post-Implementation Phase

Sequence	Task	Activity	Work Product
37.	Documentation	Finalize Documentation	Mandatory Work Products
38.	Refinement	Correct Errors	Revised, corrected application
39.	Refinement	Pilot Evaluation	Status Report
40.	Refinement	Conduct Lessons Learned/Process Evaluation	Lessons Learned/Proc. Eval
41.	Refinement	Prepare for National Rollout	Go/No Go Decision
42.	Refinement	Conduct Final Capacity Review	Updated Key Volume Indicators (KVI)

The following tasks, activities, and work product requirements are recommended during the Maintenance SDLC phase:

Table 36 – Revised Internet Model, Phase-Specific Checklist: Maintenance Phase

Sequence	Task	Activity	Work Product
43.	Management Agreement	Establish a Maintenance Management Agreement (MaMA)	Maintenance Mgmt. Agreement

5.3.2 Revised Internet Model Template

5.3.2.1 PLANNING AND ANALYSIS PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Planning and Analysis SDLC phase:

Table 37 – Revised Internet Model Template: Planning and Analysis Phase

Item	Task	Activity	Checklist Subordinate Activities
1	Initiation	Start Approved Project	• Convene project team. • Create communication plan. • Document roles and responsibilities. • Create contact list. • Develop a method for managing change. • Meet with the SPI representative and QA representative (if applicable) for management orientation. • Schedule milestone and project status meetings. • Determine how the office of systems customer satisfaction indicator for projects that are tracked via the Vital Signs & Observations Report (VISOR) will be determined.
2	Initiation	Conduct Consultations	• Determine OMB clearance needs. • Determine the need for legal and privacy consultation. • Identify stakeholders. • Determine the need for congressional consultation. • Schedule project status meetings with senior management.
3	Initiation	Conduct Business Activities	• Pursue labor management relations. • Determine level of customer support. • Determine strategy for processing operational workloads. • Determine marketing strategy. • Review and develop regulations and instructional materials.

Item	Task	Activity	Checklist Subordinate Activities
4	Initiation	Document Business Process, Business and User Requirements	• Review business requirements. • Translate the user requirements into more formal requirements. • Document preliminary nonfunctional requirements. • Conduct walkthroughs of the use cases and requirements statements with SSA staff and members of target audience. • Refine and update the description of the requirements. • Create the high-level requirements document.
5	Initiation	Identify OMB Clearance Activities	• Contact RCT and develop release package. • Sponsoring component develops clearance package. • Provide OPLM with OMB Required Documentation (3557), RCT review of package. • RCT Publishes First Notice (60-day) in Federal Register. • 60- calendar day Public Comment Period. • RCT publishes 2nd Federal Register notice & Submits Clearance Package to OMB. • 30-calendar day public comment period. • 30-calendar day OMB Review.
6	Scoping	Assess Risks	• Identify and document risks. • Perform risk analysis and mitigation. • As appropriate, document risks in the Risk Identifications and Mitigation System (RIMS) or in Excel or Word format.

Item	Task	Activity	Checklist Subordinate Activities
7	Scoping	Define Project Scope	• Coordinate General Project Scope Agreement (PSA) process to clarify, prioritize, refine, and document the understanding of the general requirements with the customer. • Conduct iterative work sessions with the customer(s) and other affected groups. • Identify information relating to agency standards, and project, organizational, and policy dependencies. • Begin identifying the project's business and technical (if known) risks at this point. Risks are identified and documented in the project's software development plan, but must be considered when defining the scope of a project. • Once the general PSA is defined and sizing has taken place, a determination can be made on the need for more than one software release.
8	Scoping	Determine Implementation Strategy	• Sponsor/developer team reviews and incorporates data from all work products produced to date, including the project objectives, business requirements, business risks, and return on investment. • The project team will determine the business process requirements and methods for achieving the objectives. • Describe, in detail, all phases through national rollout in accordance with the tasks outlined in this SDLC project plan. • The sponsor presents the proposed strategy to the AC eGov Steering Committee, which oversees Internet activities for SSA. They can concur with the strategy or ask for further changes and/or information. The project does not proceed until they have approved a strategy.

Item	Task	Activity	Checklist Subordinate Activities
9	Scoping	Conduct Milestone Review	• Schedule the session in advance with the ac eGov steering committee. • Notify participants in advance and provide meeting materials for review and approval by the responsible managers. • Discuss the scope agreed to by the project team. • Address commitments, plans and status of the project activities. • Address project risks. • Discuss the schedule and evaluate the impact of late or early completion on future activities and milestones. • Identify and document issues, action items, and decisions. • Update the SDP and MSP schedule, as necessary. • Prepare a summary status report from the review and distribute to those involved.
10	Initial Design	Determine if Outside Expertise is Needed for Developing/Creating Application	• Gather necessary resources to begin release-specific activities.
11	Initial Design	Develop Release Scope Package	• Develop Release Specific PSA (rPSA). • Conduct User-Centered Design (UCD) Sessions & Update UCD Repository. • Prepare Screen Package for ASCS approval. • Document General Requirements. • Develop Survey Questions. • Compile Release Scope Package for Approvals.
12	Initial Design	Conduct High Level Project Estimating	• Contact SMT for Conduct Function Point Count. • Develop High Level Estimates. • Develop Estimates by Analogy.

Item	Task	Activity	Checklist Subordinate Activities
13	Approval	Obtain Team Approval	• Disseminate each element of the completed release scope package to all project team members for comment/approval. • Project team members ensure that all elements of the package have been shared with the management of their component. All comments are submitted to the project team for consideration. • Each member's response and/or comments must be considered by the project team and documented in meeting notes as to why they were or were not incorporated. • The project team reaches consensus for approval of all elements of the release scope package.
14	Approval	Obtain Sponsoring Component Approval	• After the team approval process of the release scope package has been completed, key team members present all elements of the finalized release scope agreement to the sponsoring component's AC. • Allow for, and respond to, questions and comments. • Receive approval of the release scope package.
15	Approval	Identify ROI Captured for Release	• Determine the need for a Cost Benefit Analysis (CBA). • Determine the level of CBA detail. • Execute the nine step CBA process.

Item	Task	Activity	Checklist Subordinate Activities
16	Approval	Approval of Release Scope Package	• Ensure that the project team and sponsoring component agree with the recommended approach. • Ensure that the general project scope agreement is approved. • The team creates and presents a presentation to the AC eGov steering committee discussing the project strategy, strawman screens, the navigation model, and the survey questions. Development resource commitments and availability is discussed. • Gain written approval (signatures) of the entire AC eGov steering committee before proceeding. • The project team continues to refine the CBA/ROI document using information that is collected during the negotiation of the release-specific PSA.
17	Approval	Hand-off to Systems Project Manager (SPM)	• Once the Release Scope package is signed, indicating that the requirements and screen design are approved, the project is turned over to the SPM so construction can begin.

5.3.2.2 CONSTRUCTION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Construction SDLC phase:

Table 38 – Revised Internet Model Template: Construction Phase

Item	Task	Activity	Subordinate Activities
1	Planning	First Function Point Analysis (FPA)	• FPA is led by a member of the software measurement team conducting one or more interviews with the project manager and reviewing the functional requirements derived during project startup. • Use SEER-SEM tool. Input to the tool includes the function point count or size information, known constraints or dependencies relating to effort and schedule, and process attributes of the proposed system. • Based on SEER-SEM tool results, develop "what if" scenarios should there be a need to adjust resources or schedule. • FPA results from the activities are documented in the estimates section of the project's Software Development Plan (SDP). • Create the initial work breakdown structure (WBS) based on FPA results.

Item	Task	Activity	Subordinate Activities
2	Planning	Plan the Release	• Schedule a meeting with the process consultant to assist with the identification of the products that will be managed and controlled, and to determine which ones will be baselined. • Contact the systems component security officer to plan and identify the approach that will be taken to ensure the security of the system and data. • Identify the activities that must be tracked and the mechanism(s) to be used for tracking and reporting progress. • Contact the measurement team for the first FPA. Include the FPA documentation that was produced which determined the initial estimates for size and level of effort (this can be attached as an addendum to the SDP and referenced in Section IX, estimates and schedule). • Complete the SDLC plan based upon experience with similar projects or complete portions of the SDLC plan by conducting brainstorming sessions with project team members. • Solicit information from other sources such as security officer, quality assurance representative, operational components, etc., to complete sections of the document. • If the application is contractor developed, the contractor creates a System External Specification (SES), Systems Internal Specification (SIS), a Systems Requirement Document, a Version Description Document (VDD), and a Systems Design Specification (SDS) for each application. After internal peer reviews are conducted on these documents, they are delivered to the sponsoring component.

Item	Task	Activity	Subordinate Activities
3	Planning	Create Schedule	• Begin developing the WBS when the project has been sized, the lifecycle has been determined, and the products have been identified. • Should be developed use the Microsoft project (MSP) template for the Internet lifecycle to develop the project's schedule/WBS. The template identifies the specific activities that must be performed to produce the project deliverables. • Use the Function Point Analysis (FPA) schedule as a starting point to create the schedule/WBS. • Conduct a detailed-level project estimate for scheduling. • Review the schedule at the end of each phase to determine if revisions are needed based on new information received or changes that have occurred. Detailed tasks should be added at this time for the next phase. • Publish and maintain the SDLC project schedule.

Item	Task	Activity	Subordinate Activities
4	Iterative Development Process	Develop Detailed Functional Specifications	• Review how the existing process works - inputs, edits, files, transactions, batch/online, etc. • "Define splice point(s) into existing back-end -- queries, pending file, traffic file. • Determine Impact on Current Systems (e.g., MCS, POS, etc.). • Define Interface to Mainframe Systems • Define new transactions created by the Internet environment. • Define MI Specs. • Define Data Requirements. • Identify any new transactions or processes needed in associated systems. • Prepare Draft Functional Specifications in testable format.

Item	Task	Activity	Subordinate Activities
5	Iterative Development Process	Develop Detailed Design	• The systems project manager, tech team, and sponsor (and frequently, the usability center) work collaboratively to simultaneously develop functional specifications, design system architecture and components, and begin development of software components. • When issues arise that must be resolved, the project sponsor may seek input from the usability center and other project team members and must use the change management procedure for the project to escalate the decision to the agreed upon authority. • Produce project documentation such as lists of data elements, record layouts, and architecture diagrams. • Document decisions in meeting notes. • When the software is being developed by an outside contractor, the contractor creates evolving prototypes. They are periodically reviewed by the sponsoring component. The contractor works through the sponsoring component project manager with OESAE/DDBS and any other DCS components necessary to develop the application. • Update the Software Development Plan (SDP) using change management procedures.

Item	Task	Activity	Subordinate Activities
6	Iterative Development Process	Conduct Development Activities	• Develop software to support Internet applications using tools on the SSA Software Tools List. • Identify Internet screen development resources. • For contractor developed applications, the contractor creates evolving prototypes that are periodically reviewed by the sponsoring component. The contractor works through the sponsoring component project manager with OESAE/DDBS and any other DCS components necessary to develop the application. • Ensure monitoring capabilities are included in the Internet application. • Ensure Internet applications meet the requirements of Section 508 of the Americans with Disabilities Act. • Arrange for DCS to write the software code to interface to mainframe software if revisions to existing mainframe software and/or new mainframe software are needed to support the Internet application. • Arrange for DCS to write the software code needed to produce MI and WMI. • Code is produced to satisfy customer requirements.

Item	Task	Activity	Subordinate Activities
7	Iterative Development Process	Conduct Unit Testing, Usability, Accessability, Pre-Validation	• Ensure validators participate in the development team from the outset, attending collaborative meetings so that they can capture information about the project as it emerges. • Ensure validators incorporate their understanding into a validation questionnaire that is the basis for a master test plan for testing all the software and for building an adequate test environment. • Ensure functional requirements are converted into a series of test scenarios. • Independent validators define test conditions for each unit of software developed. • Independent validators construct base test scripts. • Independent validators follow documented test scenarios, keying transactions and reviewing the output. • Independent validators continue testing until all units of code have been tested and are verified as performing correctly. • Produce united test modules. • Issue Unit Verification Report indicating that units of code have been tested and are verified as performing correctly.
8	Iterative Development Process	Develop Master Test Plan	• Create the Master Test Plan (MTP) to assign testing responsibilities and identify all activities necessary to test and validate applications developed using the WebSphere Internet application architecture. • Publish and manage the MTP.

Item	Task	Activity	Subordinate Activities
9	Iterative Development Process	Plan for Validation	• Create Validation Plan and Test Scripts/Cases. • Publish and manage the Validation Plan and Test Scripts/Cases. • Combine and register test scripts and scenarios used in unit testing. • Independent validators follow the entire series of documented test scenarios for transaction keying and reviewing output. • If the application is contractor developed, it is turned over to the sponsoring component that conducts the validation of the application and arranges for validation of any legacy system changes and related MI applications. • If any problems are detected, the software is returned to the developers for correction, unit tested, and resubmitted for final validation.
10	Prepare for Final Testing	Start OTSO Questionnaire	• Complete appropriate OTSO questionnaires.
11	Prepare for Final Testing	Start Architecture Questionnaire	• Obtain the Application for Architecture questionnaire from the Architecture Review Board (ARB) site. • Complete the questionnaire and submit it to the ARB staff to initiate the ARB process. • Make presentation ARB staff as necessary. • Incorporate ARB recommendations to improve the project's compliance with SSA's IT architecture. • Update and manage the ARB questionnaire throughout the project's lifecycle.
12	Prepare for Final Testing	Conduct Security Meeting	• Software development project manager and the component security officer (CSO) ensure that the applications they develop provide the required level of confidentiality, integrity, availability and reliability.

Item	Task	Activity	Subordinate Activities
13	Prepare for Final Testing	OTSO Integrated Planning Meeting	• Meet with OTSO, the project team and all affected stakeholders. For contractor developed applications, the sponsoring component has the lead on ensuring that this activity is completed. • Update and manage the OTSO Questionnaire.
14	Prepare for Final Testing	Conduct Accessability Testing	• Conduct final accessibility testing of the entire application (all builds) to ensure compliance with Section 508 of the Rehabilitation Act of 1973. • Publish and mange an Accessibility Findings Report.
15	Prepare for Final Testing	Conduct Usability Testing	• Prepare a test plan. • Arrange for resources. • Recruit end-user test participants. • Prepare tests cases. • Prepare administrative test materials. • Prepare the test environment. • Prepare test participants. • Conduct tests and participant wrap-up sessions. • Conduct overall test debriefing and analyze results. • Publish and manage a Findings and Recommendations report.
16	Prepare for Final Testing	Start Capacity Planning Activities	• Develop, publish, and manage application-specific documents detailing the capacity management approach, service level requirements, service objectives, and systems security requirements. For contractor developed applications, the sponsoring component must contact the capacity planning staff. • Identify key business functions to be monitored and a preliminary workload analysis and capacity risk assessment based on the release-specific PSA.

Item	Task	Activity	Subordinate Activities
17	Final Testing	Conduct Final Validation	• Test scenarios that were used in unit testing are combined and retested together. If the application is contractor developed, it is turned over to the sponsoring component. The sponsoring component conducts the validation of the application. The sponsoring component arranges for validation of any legacy system changes and related Management Information (MI) applications. • Validate Section 508 compliance. • Independent validators follow the entire series of documented test scenarios for transaction keying and reviewing output. • If any problems are detected, the software is returned to the developers for correction, unit tested, and resubmitted for final validation. • Issue Validation Analysis Report (VAR) and turnover to DIET. • Conduct Software Configuration Management (CM) Audit. • Conduct final security validation.
18	Final Testing	Conduct Final Integration Testing	• Arrange for testing by DIET and Batch Integrated Testing (BIT) staff personnel. • Modify the Internet software to make it available on the Intranet for SSA employees to view before it is made available to the public. • Provide the URL to the CO components that were involved in the development effort. • As necessary, return the software to developers for correction, revalidation, and resubmission to DIET.

Item	Task	Activity	Subordinate Activities
19	Final Testing	Release to Production	• Ensure that all required testing has been successfully completed. • Migrate the application software and associated security elements to the production environment. • Notify the pilot audience of its URL. • Conduct a final CM audit of the software.

5.3.2.3 POST-IMPLEMENTATION PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Post-Implementation SDLC phase:

Table 39 – Revised Internet Model Template: Post-Implementation Phase

Item	Task	Activity	Subordinate Activities
1	Documentation	Finalize Documentation	• Finalize Architecture Design Document (ADD). • Produce Detailed System Specification (DSS). • Finalize SDP. • Deliver all project documentation to OSPI IA for inclusion in PAS.
2	Refinement	Correct Errors	• Document functional needs discovered but not included in release. • Prioritize unmet functionality as immediate correction vs. subsequent version. • Control changes to baseline and update documentation (iterative). • Include Usability processes in designing change (iterative). • Develop corrected software (iterative). • Validate and DIET test corrected SW (iterative). • Release Corrected Software to Production (iterative).

Item	Task	Activity	Subordinate Activities
3	Refinement	Pilot Evaluation	• Collect and evaluate customer feedback received via the ssa.gov Web site. • Review feedback to identify problems and concerns raised by the public. • Survey non-respondents when possible as to why the Web site was not used. • Evaluate data quality to ensure that no errors have been introduced into the process. • Evaluate need for changes in screen language or help screens. • Ensure the Office of Workforce Analysis evaluates processing speed and workload processing issues that may arise. • Prepare and distribute a pilot evaluation status report.
4	Refinement	Conduct Lessons Learned/Process Evaluation	• Convene the project team to evaluate the overall internal business process to determine what worked, what didn't work, and how SSA could improve its approach to other applications. • Utilize an experienced facilitator to conduct process review sessions, if desired. • Invite the SPI/measurement team to conduct a final function point count using this project as an example to calibrate its estimating tool for similar projects in the future. • Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques. • Make a final presentation to the architecture review board (ARB) to enable the ARB to identify new architecture models needed or to update existing models in its repository. • Submit recommendations to the systems process improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.

Item	Task	Activity	Subordinate Activities
5	Refinement	Prepare for National Rollout	• Based on the pilot evaluation, any necessary changes are made. • Other sponsoring component presents the pilot results and an implementation recommendation to the AC eGov steering committee. The AC eGov steering committee makes the go/no go decision and may provide further direction. • Coordinate training for SSA employees for nationwide rollout. Consideration is given to the large numbers of employees that might be involved, especially for Field Offices (FOs) and Teleservice Centers (TSCs). This may require an extended training period before the software moves into production. • Implement the application on a mutually agreed date. This date may be driven by parties external to SSA, such as the White House or Congress. • OQA and OWA collect evaluation data about processing time, payment accuracy, notice accuracy, processing problems or delays, and customer satisfaction. • The project team works with OQA and OWA to use the data to assess the need for systems improvements, enhancements, or process revisions.
6	Refinement	Conduct Final Capacity Review	• Implement Production Monitoring. • Update KVI for Workload. • Use Results of OTSO Questionnaire as historical documents for future tasks.

5.3.2.4 MAINTENANCE PHASE

The following tasks, activities, and subordinate activities requirements are recommended during the Maintenance SDLC phase:

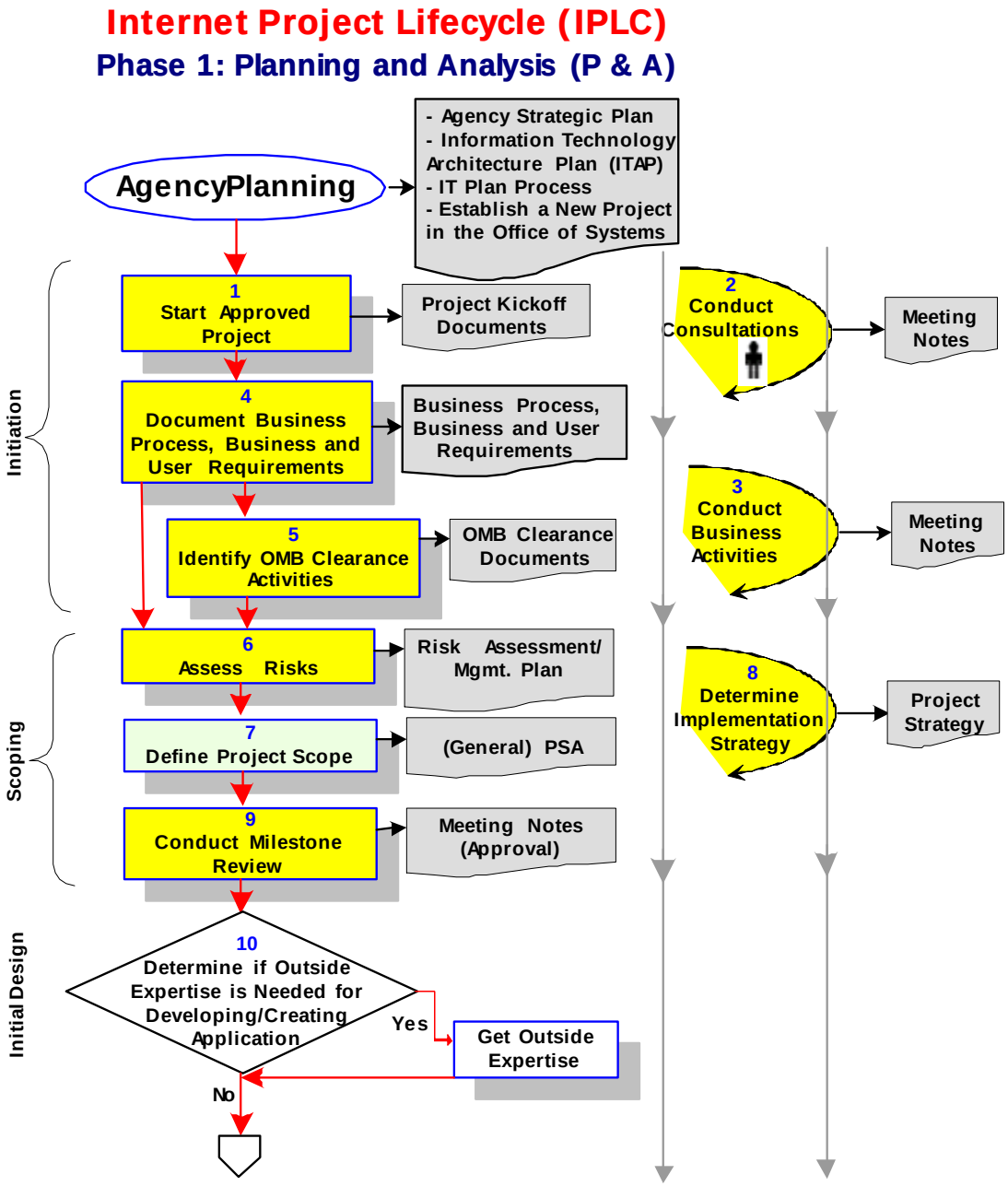
Table 40 – Revised Internet Model Template: Maintenance Phase

Item	Task	Activity	Checklist Subordinate Activities
1	Maintenance Management	Establish a Maintenance Management Agreement (MaMA)	• Review the Software Maintenance Plan (SMP). • Complete the MaMA. • Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change. • Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability. • Manage changes to the MaMA.

5.3.3 Revised Phase-Specific Overview Flowcharts

5.3.3.1 PLANNING AND ANALYSIS

The following overview flowchart is recommended for the Planning and Analysis SDLC phase:



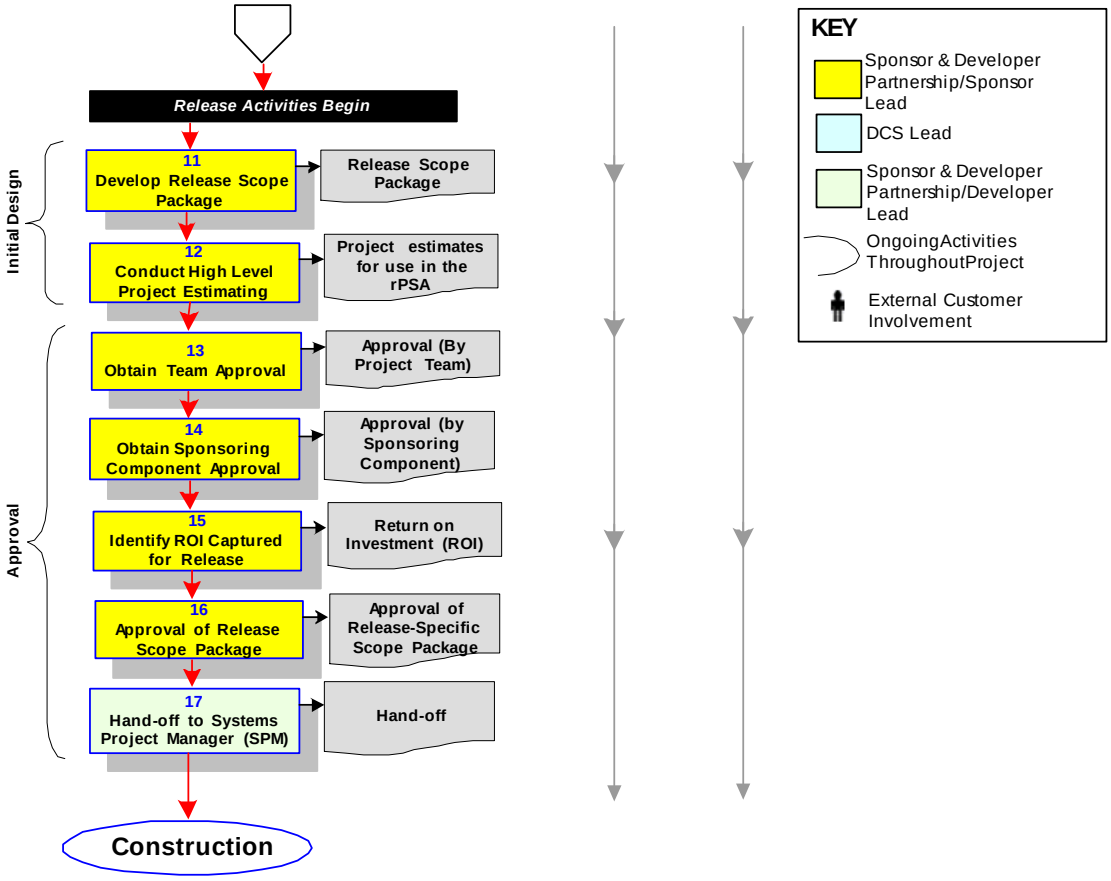


Figure 20: Revised Internet Model Overview Flowchart: P&A Phase

5.3.3.2 CONSTRUCTION

The following overview flowchart is recommended for the Construction SDLC phase:

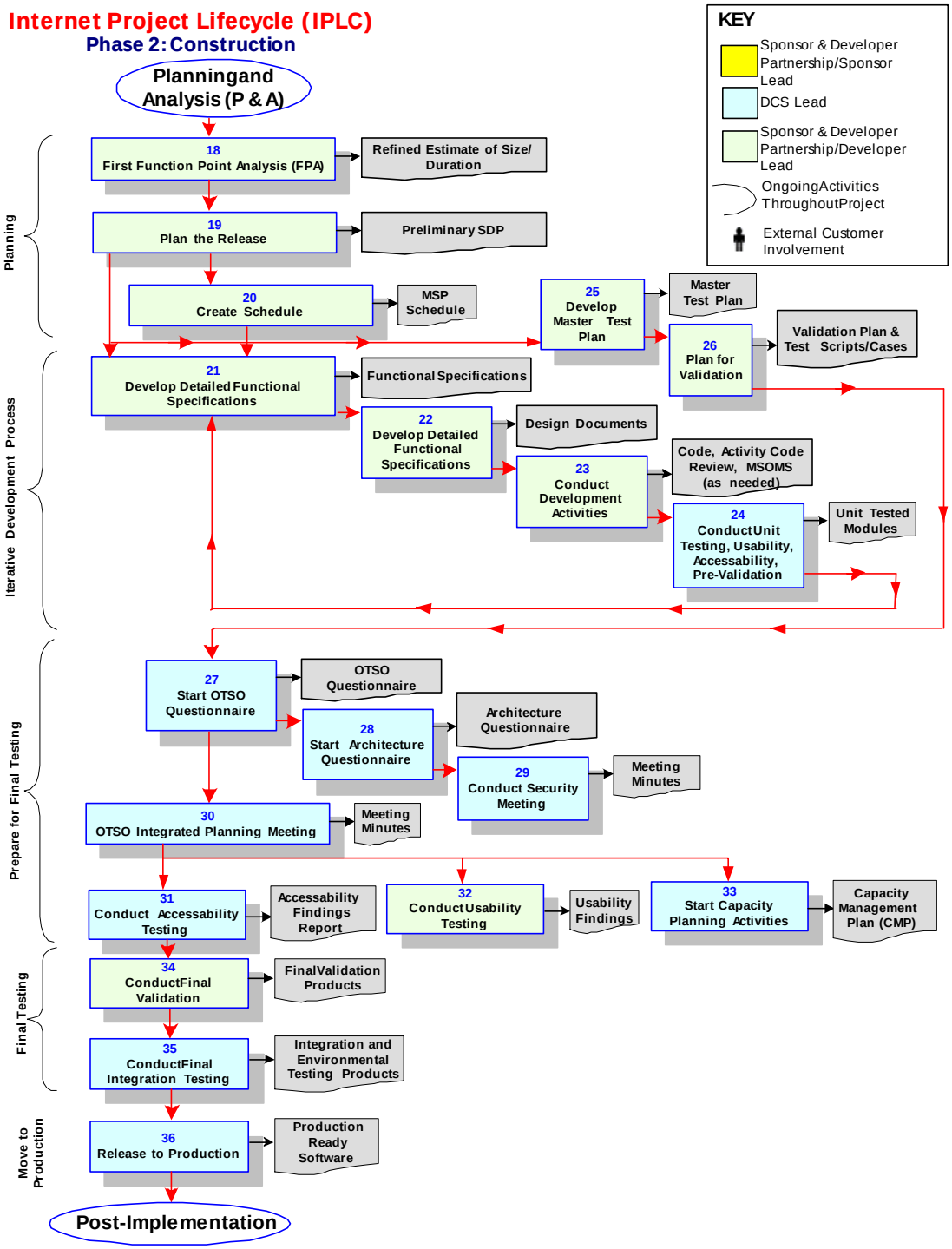


Figure 21: Revised Internet Model Overview Flowchart: Construction Phase

5.3.3.3 POST-IMPLEMENTATION

The following overview flowchart is recommended for the Post-Implementation SDLC phase:

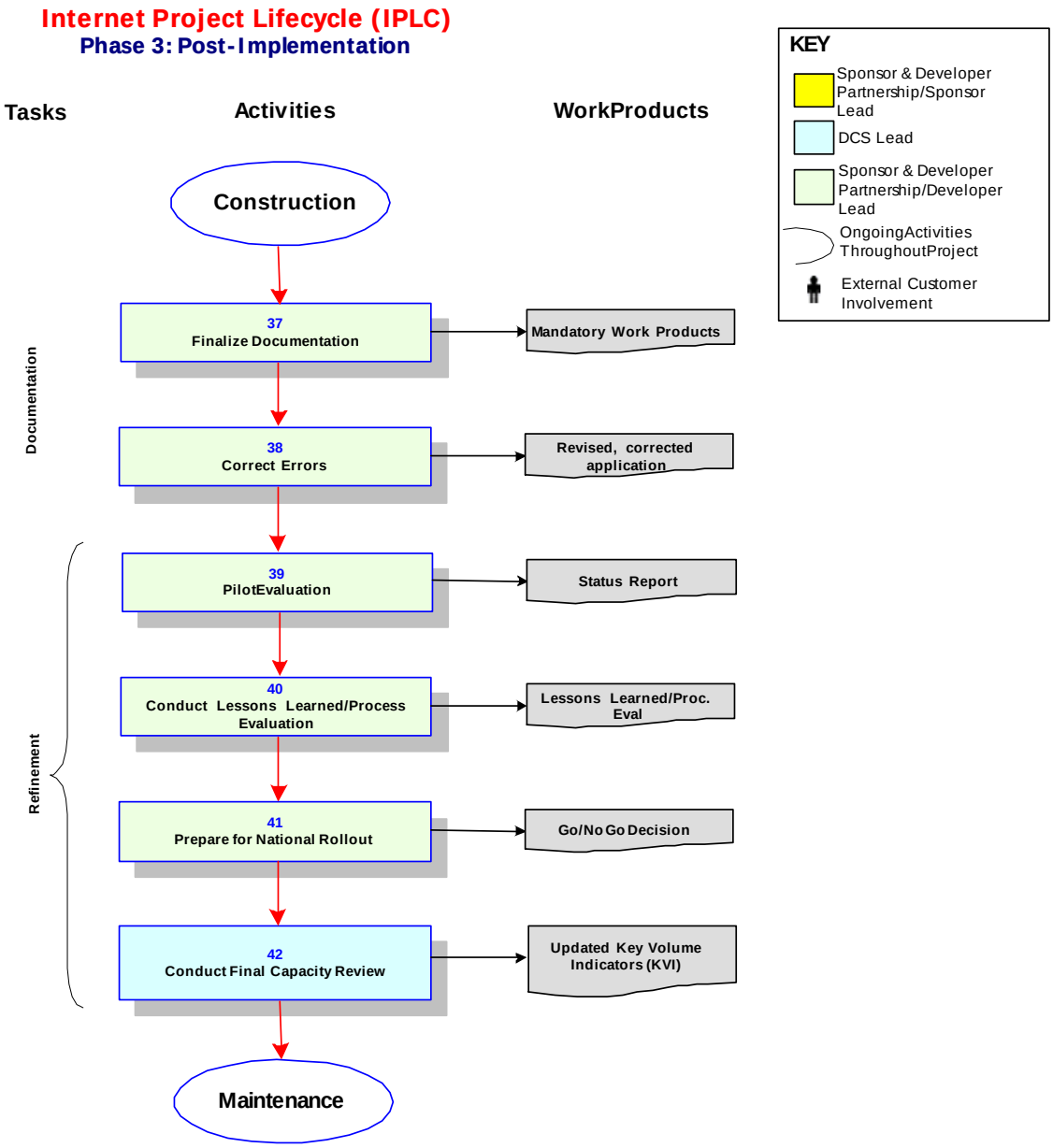


Figure 22: Revised Internet Model Overview Flowchart: Post-Implementation Phase

5.3.3.4 MAINTENANCE

The following overview flowchart is recommended for the Maintenance SDLC phase:

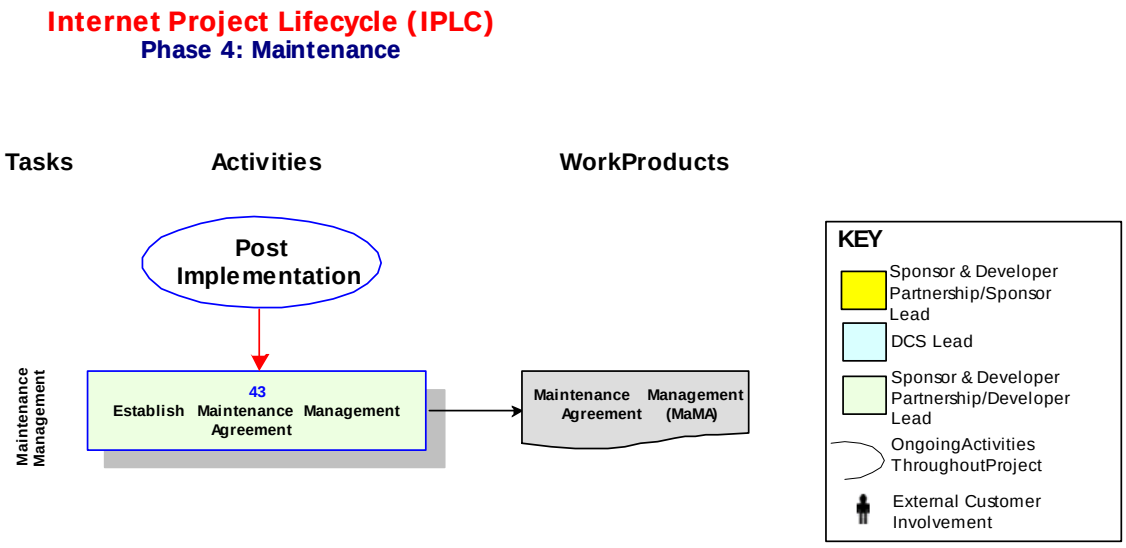


Figure 23: Revised Internet Model Overview Flowchart: Maintenance Phase

6.0 Master Phase-Specific Checklist Sequences

Master phase-specific checklist task, activity, and work product requirements will be created in four phases:

1. Planning and Analysis (P&A),
2. Construction,
3. Post-Implementation, and
4. Maintenance.

Task, activity, and work product requirements set forth in the existing Track and Oversight phase are blended into the remaining four SDLC phases.

6.1 Planning and Analysis Phase

The following tasks, activities, and work product requirements are recommended during the Planning and Analysis SDLC phase:

Table 41 – Master Phase-Specific Checklist Sequences: Planning and Analysis Phase

Sequence	Task	Activity	Work Product
1.	**Requirements Management**	Identify, elicit, document, baseline, and manage project requirements.	Project requirements that are used to create the Release Project Scope Agreement.
2.	**Configuration Management**	Place project requirements under baseline management.	Project requirements traceability matrix.
3.	**Project Management**	Allocate requirements and obtain stakeholder commitment to perform.	Allocated baseline and stakeholder buy-in.
4.	**Requirements Management**	Document High-level requirements.	High-level Requirements Document to include General User Requirements, technical functional requirements, non-technical requirements, required standards, and functional point analysis information.
5.	**Project Management**	Develop General Project Scope Agreement (PSA).	General Project Scope Agreement.
6.	**Product Planning**	Conduct Functional Point Analysis (FPA)	Project estimates for use in the Release Project Scope Agreement.

Sequence	Task	Activity	Work Product
7.	**Project Planning**	Plan the release using Microsoft Project, develop and tailor a SDLC Model with clearly defined performance stages, task, activity and work product requirements.	Tailored, approved, and controlled project-specific SDLC Model complete with requirement start and stop dates, milestone dates, meeting and review dates, and other key project event.
8.	**Project Planning**	Identify Office of Management and Budget (OMB) clearance needs.	OMB clearance documents.
9.	**Project Planning**	Conduct appropriate security activities.	Completed SSA form 120, completed SSA form 613, security risk assessment, security profiles, requests for access, and safeguard procedures report.
10.	**Project Planning**	Conduct capacity planning activities.	Document service levels of agreement, capacity requirements for the High-level Requirements Document, updated Business Continuity Plan, and hardware procurement requirements.
11.	**Project Planning**	Capture Return on Investment (ROI) data for use by the OMB.	Documented cost benefit analysis and other ROI data for use by the OMB.
12.	**Project Management**	Develop and control project schedule.	An approved and controlled project schedule that shows critical path relationships between event sequences, meetings, reviews, and milestones.

Sequence	Task	Activity	Work Product
13.	**Project Management**	Create and tailor a project specific Software Development Plan (SDP) in accordance with DCS requirements that clearly define the project's purpose, goals, and objectives.	A Project-Specific SDP consisting of subordinate plans such as a Risk Management Plan, Configuration Management Plan, Quality Assurance Plan, Security Analysis Plan, Program Milestone and Performance Schedule, and Intergroup Coordination Plan. Other subordinate plans may be added based on project complexity, user needs, and DCS policy requirements.
14.	**Project Management**	Convene Project Kickoff meeting.	Communications Plan, Meeting Notes, stakeholder commitment to project goals, and compliance with 508 requirements.
15.	**Project Management**	Conduct stakeholder consultations.	Meeting notes and documented agreements that are used as input to the project's implementation strategy
16.	**Project Management**	Assign responsibilities for developing and tailoring the project's SDLC model.	List of assigned responsibilities that shows points of contact (POC), telephone numbers, e-mail addresses, and work location.
17.	**Project Management**	Determine implementation strategy.	Project Strategy Outline.
18.	**Project Management**	Conduct and document business activities.	Meetings notes and business activity documentation.
19.	**Project Management**	Identify, assess, mitigate, track, and report the status of project risks.	Risk Management Plan.
20.	**Project Tracking and Oversight**	Provide adequate funding and resources are provided for tracking the software project	A list of tools, reports, and spreadsheets that will be used to track and report the status of the project.

Sequence	Task	Activity	Work Product
21.	**Project Tracking and Oversight**	Baseline original project schedule, performance and cost estimates	Original estimates prepared as part of the proposal effort that will be compared to actual performance data.
22.	**Project Management**	Assign responsibilities for software tasks, activities, and work products	Responsibility Matrix
23.	**Project Tracking and Oversight**	Identify technical reviews, management reviews and key milestones.	A performance schedule used to identify, track, and report the status of technical reviews, management reviews, and milestones through the project's SDLC.
24.	**Project Management**	Identify project-level training requirements.	Project Training Plan that identifies required training for project personnel.
25.	**Project Management**	Schedule periodic reviews by the independent quality assurance group to verify compliance to Software Project Tracking and Oversight tasks.	Quality assurance audit reports.
26.	**Subcontract and Procurement Management**	Determine the need to procure Off-the-Shelf (OTS) Software.	Subcontract management plan, Statement of Work (SOW), and performance schedule if procurement is necessary.
27.	**Subcontract and Procurement Management**	Begin OTS procurement.	Completed SSA-393 Purchase/Service/Stock Requisition for.
28.	**Subcontract and Procurement Management**	Monitor and track OTS procurement effort.	OTS procurement status report.
29.	**Subcontract and Procurement Management**	Control changes to the OTS procurement effort	Updated subcontract management plan, SOW, and performance schedule.

Sequence	Task	Activity	Work Product
30.	**Product Engineering**	Conduct user and business analysis and design.	Paper prototypes, navigational flow, and screen designs and usability test results that will be included in the High-level Requirements Document.
31.	**Product Engineering**	Identify required software engineering tools.	A list of required hardware and software tools.
32.	**Product Engineering**	Develop, maintain, document, and verify the project's software design.	Documentation that establishes software architecture, coding standards, system interfaces, user interfaces, and network interfaces.
33.	**Product Engineering**	Obtain project team approval.	Meeting notes, approved design specifications and test plans, documented acceptance of allocated project responsibilities.
34.	**Product Engineering**	Determine the need for design alternatives.	Documented design alternatives, costs, resources, advantages, rationale, and risks.
35.	**Product Engineering**	Produce design alternatives.	Data dictionary, design architecture, database design, functional diagrams, and final software design description.
36.	**Product Engineering**	Identify system component changes.	Documented changes to original components in accordance with change management policies.
37.	**Configuration Management**	Document and process change request in accordance with change management requirements.	Engineering Change Requests, approved, Engineering Change Notices (ECNs) disapproved ECNs, Notices of Revisions (NoRs), and other change management documents.
38.	**Product Engineering**	Convene Preliminary Design Review (PDR)	Preliminary software design approved by all stakeholders.

Sequence	Task	Activity	Work Product
39.	**Configuration Management**	Document and process PDR change requests in accordance with change management requirements.	Update software design specifications and project schedules to reflect the software product's preliminary design.
40.	**Product Engineering**	Determine the need for an Architecture Review Board (ARB)	Rationale to conduct an ARB.
41.	**Product Engineering**	Complete ARB Questionnaire.	Completed ARB questionnaire.
42.	**Product Engineering**	Conduct ARB review.	Meeting notes and recommendations.
43.	**Product Engineering**	Determine the need to bundle initiatives.	Bundling decision documented in the rPSA. Documented application that will be bundled and resources needed to completed the bundling effort.
44.	**Product Engineering**	Bundle initiatives.	Bundled release information.
45.	**Project Management**	Obtain approval to proceed with Construction.	Information Technology planning decision.
46.	**Project Management**	Obtain sponsoring component or the systems project manager's approval of the Release Project Scope Agreement (rPSA) to proceed to the Construction Phase. Of the SDLC process.	Approved rPSA.
47.	**Project Planning**	Conduct Planning and Analysis Phase Review	Lessons learned and recommendations for SDLC process improvement.

6.2 Construction Phase

The following tasks, activities, and work product requirements are recommended during the Construction SDLC phase:

Table 42 – Master Phase-Specific Checklist Sequences: Construction Phase

Sequence	Task	Activity	Work Product
1.	**Product Engineering**	Conduct Functional Point Analysis (FPA).	Refined project estimates for use in the Release Project Scope Agreement.
2.	**Requirements Management**	Develop Detailed Functional Requirements (DFR) and System Requirements Specification (SRS).	Detailed Functional Requirements (DFR) and System Requirements Specification (SRS).
3.	**Project Planning**	Review the SDP, project schedule, and related documents.	Marked up SDP, project schedule, and related documents.
4.	**Configuration Management**	Update the project schedule.	Updated project schedule.
5.	**Product Engineering**	Review the project software design supporting requirements.	Marked up software design and supporting documentation.
6.	**Configuration Management**	Document and process change request in accordance with change management requirements.	Updated software design and supporting documentation.
7.	**Configuration Management**	Document and process DFR change requests in accordance with change management requirements.	Update software design specifications and project schedules to reflect the software product's final design.
8.	**Project Management**	Identify, assess, mitigate, track, and report the status of project risks.	Refined Risk Management documentation.
9.	**Product Engineering**	Determine the need for an additional ARB review.	Rationale to conduct an ARB.
10.	**Product Engineering**	Conduct ARB review.	Meeting notes and recommendations.

Sequence	Task	Activity	Work Product
11.	**Product Engineering**	Conduct appropriate database activities.	Stakeholder identification and buy in, Database, Support Request, Architecture Diagram, Data Flow Diagram, and Data Matrix.
12.	**Project Management**	Develop mater test plan and schedule.	High-level Master Test Plan and Schedule for usability testing, validation and test, and integrations and environmental testing.
13.	**Product Engineering**	Create usability test plan.	Specific goals of the testing effort and required protocols.
14.	**Product Engineering**	Create validation and test plan.	Validation Plan, Test Case Scenarios and Scripts.
15.	**Product Engineering**	Create integration and environmental testing plan.	Software test plan, resources, equipment, environment, and schedule.
16.	**Product Engineering**	Create accessibility test plan.	Accessibility Test Plan.
17.	**Requirements Management**	Conduct requirements verification.	Completed and verified Requirements Traceability Matrix that show compliance to all SOW requirements.
18.	**Configuration Management**	Update test plans based on requirements verification.	Finalized Test Plans.
19.	**Project Engineering**	Create systems level and program level manuals.	Modernized Systems Operational Manuals (MSOMS) and Program Operational Manual System (POMS).
20.	**Project Training**	Create training materials.	Training Manuals, Course Curriculum, Lesson Guides, Visual Aides, Student Manuals, and Achieve Tests.
21.	**Product Engineering**	Convene the Critical Design Review (CDR).	Final software design approved by all stakeholders.

Sequence	Task	Activity	Work Product
22.	**Product Development**	Begin software development effort.	Software code.
23.	**Product Engineering**	Complete the Office of Telecommunications and Systems Operations (OTSO) Questionnaire.	OTSO Questionnaire.
24.	**Peer Review**	Peer Review developed code.	Defect Density and recommendations for rework.
25.	**Product Engineering**	Update code.	Code with peer review comments incorporated.
26.	**Product Engineering**	Conduct Test Readiness Review (TRR).	A list of issues that determine whether or nor the software is ready to test. Decision to proceed to test or rework defects.
27.	**Product Engineering**	Conduct OTSO meeting.	Meeting Minutes.
28.	**Product Engineering**	Conduct Security meeting.	Meeting Minutes.
29.	**Product Engineering**	Initiate Capacity Planning activities.	Capacity Management Plan.
30.	**Product Test**	Conduct usability testing.	Test results and findings.
31.	**Product Test**	Conduct validation testing.	Test results and findings.
32.	**Product Test**	Conduct integration and environmental testing.	Test results and findings.
33.	**Product Test**	Conduct accessibility testing.	Test results and findings.
34.	**Quality Assurance**	Review and categorize test defects.	Defect severity and rework priority.
35.	**Product Test**	Conduct final testing on rework of software defects	Test results and findings.
36.	**Product Engineering**	Certify software is production ready.	Software Certification Message.

Sequence	Task	Activity	Work Product
37.	**Product Engineering**	Release accepted software to configuration management to establish functional baseline.	Baselined functional software.
38.	**Quality Assurance**	Validate MSOM and POMS using certified software.	Finding report.
39.	**Product Engineering**	Rework MSOM and POMS based on validation findings.	Updated manuals.
40.	**Quality Assurance**	Validate reworked MSOM and POMS using certified software.	Validated MSOM and POMS.
41.	**Quality Assurance**	Place Validate Manuals Under Configuration Management.	Baselined manuals.
42.	**Configuration Management**	Release MSOM and POMS to training.	Baselined manuals for use by training activity personnel.
43.	**Configuration Management**	Release software to training activity.	Software for use in manual validation and user training sessions.
44.	**Configuration Management**	Release software to production.	Completed application software.
45.	**Project Management**	Conduct Construction Phase Analysis Review.	Lessons learned and recommendations for SDLC process improvement.

6.3 Post-Implementation Phase

The following tasks, activities, and work product requirements are recommended during the Post-Implementation SDLC phase:

Table 43 – Master Phase-Specific Checklist Sequences: Post-Implementation Phase

Sequence	Task	Activity	Work Product
1.	**Product Engineering**	Finalize documentation.	Marked up final project work products.
2.	**Configuration Management**	Update finalized documentation based on requirements verification.	Finalized project documentation.
3.	**Project Management**	Prepare for National Rollout.	Go/No Go Decision. Identification of issues that prevent national rollout.
4.	**Project Management**	Address No Go issues.	Document rework requirements.
5.	**Product Engineering**	Rework identified requirements.	Correct issues that prevent national rollout.
6.	**Quality Assurance**	Validate reworked efforts.	Findings.
7.	**Configuration Management**	Baseline final product configuration.	Validated rework project product.
8.	**Project Management**	Establish National Rollout Protocol.	Installation instructions and National Rollout Schedule.
9.	**Configuration Management**	Prepare and distribute copies of project product for distribution.	Copies of project products that have been inspected by quality assurance and certified as virus free prior to distribution.
10.	**Product Engineering**	Conduct Functional Point Analysis (FPA).	Refined project estimates for use in estimating similar software development project efforts.
11.	**Project Management**	Conduct Post-Implementation Phase Analysis Review.	Lessons learned and recommendations for SDLC process improvement.

6.4 Maintenance Phase

The following tasks, activities, and work product requirements are recommended during the Maintenance SDLC phase:

Table 44 – Master Phase-Specific Checklist Sequences: Maintenance Phase

Sequence	Task	Activity	Work Product
1.	**Project Management**	Establish a Maintenance Management Agreement (MaMA).	Approved MaMA.
2.	**Quality Assurance**	Perform Defects Tracking.	Software Defect Log.
3.	**Product Engineering**	Perform Defect Analysis.	Defect analysis and recommendations for software enhancement and/or software patches.
4.	**Project Tracking and Oversight**	Perform Cost Related to Quality analysis.	A report showing the cost related to correcting defects.
5.	**Project Management**	Review Existing policies and procedures for adequacy and accuracy.	Recommendations to enhance existing policies and procedures to reduce defects.

7.0 Recommended Reviews and Audits

The following reviews and audits should be included in the SDLC Process:

Table 45 – Recommended Reviews and Audits

Review or Audit	Purpose
System Requirements Review (SRR)	To ensure responsiveness to the SOW and system/component requirements. The SRR normally conducted after accomplishment of functional analysis and preliminary requirements allocation to ensure complete identification of the required configuration.
System Design Review (SDR)	To ensure a final review of the completeness as risks of allocated requirements of total system requirements to include, operations, maintenance, test, training, and logistical support. The SDR is normally conducted prior to demonstration and validation.
Software Specification Review (SSR)	A formal review of the Software Requirements Specification. The SSR is normally held after the SDR but prior to starting preliminary design of Computer Software Configuration Items (CSCIs).
Preliminary Design Review (PDR)	A formal technical review of the basic design approach for a Configuration Item (CI) or for a functionally related group of CIS. It is normally convened prior to the start of detailed design but after preliminary high-level requirements are documented, after test and validation plans are drafted, and after project manuals and documentation are identified. The PDR provides the customer an initial opportunity to ensure the proposed design will meet SOW requirements prior to full scale development.
Critical Design Review (CDR)	A formal technical review of the final design approach for each CSCI and its supporting documentation to ensure the design satisfies all performance, test, and engineering requirements of the SOW. Technical risks associated with the final product are identified and mitigated. It is normally conducted prior to coding release and after supporting documentation, to include test plans and manuals, is available in sufficient detail to define and describe each CSCI. The CDR provides the customer a final opportunity to ensure the product delivered will satisfy SOW requirements.
Test Readiness Review (TRR)	A formal meeting to ensue each CSCI is ready for test and to identify all risks and issues associated with the test. Test

Review or Audit	Purpose
	procedures are evaluated to ensure all CSCI functions are validated and all SOW requirements allocated to the CSCI under test are tested. A TRR is normally convened prior to acceptance testing of the final design of a CSCI. A TRR allows the customer a final opportunity to witness validation of the product prior to delivery or deployment. A Go or No Go decision is reached prior to test.
Functional Configuration Audit (FCA)	A formal audit to validate that the development of a CSCI and its supporting documentation has been completed satisfactorily and has achieved all performance and functional objectives. An FCA is normally conducted after final testing to ensure the product satisfies all functional requirements of the SOW prior to customer acceptance.
Physical Configuration Audit (PCA)	A formal audit to of hardware to validate compliance to physical specifications established by supporting documentation and the SOW. A PCA is normally conducted after an FCA to ensure the product satisfies all as-built physical dimensions prior to customer acceptance.
Product Readiness Review (PRR)	A formal review to determine the completion status of a CSCI or CI prior to executing a production goes or no-go decision.

Appendix A

Task Inconsistencies

Table 46 – Task-to-Task Matrix

Phase and Task Name	Standard	Collaboration	Internet
Phase 1: Planning and Analysis			
Project Kickoff	√	√	
Initiation			√
Project Scoping	√	√	
Scoping			√
High-Level Design Approval	√		
Initial Design			√
Procurement (optional)	√		
Project Sizing	√		
Project Planning	√	√	
Approval			√
Total Number of Phase Tasks	**6**	**3**	**4**
Phase 2: Construction			
Requirements and Design	√	√	
Project Planning	√		
Planning			√
Requirements and Design	√		
Iterative Development Process			√
Develop		√	
Testing		√	
Prepare for Final Testing			√
Final Testing	√		√
Project Checkpoint	√		
Requirements and Design	√		
High-Level Design Approval	√		
Development and Unit Testing	√		
Project Checkpoint	√		

Phase and Task Name	Standard	Collaboration	Internet
Final Testing	√		
Production	√	√	
Move to Production			√
Total Number of Phase Tasks	**11**	**4**	**5**
Phase 3: Post-Implementation			
Project Closure		√	
Documentation			√
Refinement			√
Total Number of Phase Tasks	**0**	**1**	**2**
Phase 4: Maintenance			
Maintenance	No Tasks*	No Tasks*	No Tasks*
Total Number of Phase Tasks	**0**	**0**	**0**
Phase 5:			
Tracking	√	√	√
Oversight	√	√	√
Total Number of Phase Tasks	**2**	**2**	**2**

Appendix B

Activity Inconsistencies

Table 47 – Activity-to-Activity Matrix

Phase and Activity Name	Standard	Collaboration	Internet
Phase 1: Planning and Analysis			
Start Project	√	√	√
Document Business Process	√		
Conduct User and Business Analysis and Design	√		
Statement of Business Needs		√	
Conduct Consultations			√
Conduct Business Activities			√
Document Business Process, Business and User Requirements			√
Assess Risks			√
Define Project Scope			√
Determine Implementation Strategy			√
Conduct Milestone Review			√
Document High-level Requirement (required) and General Scope of Project (optional)	√	√	
Determine need for Design Alternatives	√		
Determine Design Alternatives	√		
Determine Need for OTS Evaluation	√		
Consider OTS Alternatives	√		
Complete/Submit Architecture Review Board (ARB) Questionnaire	√		
Determine Need for ARB Review	√		
Conduct ARB Review	√		
Present to Architecture Review Board (ARB)		√	

Phase and Activity Name	Standard	Collaboration	Internet
Conduct Appropriate Security Activities		√	
Identify OMB Clearance Requirements			√
Determine Need for OTS Procurement	√		
Begin OTS Procurement	√		
Determine Systems Component Changes	√		
Conduct Initial Functional Point Analysis	√		
Conduct Capacity Planning Activities		√	
Develop Project Plan		√	
Negotiate Release Size and Scope	√		
Document Need to Bundle Initiatives	√		
Bundle Initiatives	√		
Develop Release Scope Package			√
Obtain Team Approval			√
Obtain Sponsoring Component Approval			√
Obtain Approval to Proceed with Construction	√		
Identify ROI Captured for Release			√
Obtain Approval of Release Project Scope Agreement (rPSA)	√		√
Plan the release	√		
Hand-off to Systems Project Manager (SPM)			√
Total P&A checklist activities	**21**	**7**	**15**
Phase 2: Construction			
Develop Detailed Functional Requirements (DFR)/Specifications (SRS)	√		√
Conduct Requirements Analysis		√	
Conduct Appropriate Database Activities		√	

Phase and Activity Name	Standard	Collaboration	Internet
First Function Point Analysis			√
Plan the Release			√
Create Schedule			√
Develop Detailed Design			√
Conduct Development Activities			√
Conduct Unit Testing, Usability, Accessibility, Pre-Validation			√
Develop the Master Plan			√
Plan for Validation and Testing	√	√	√
Prepare MSOM and POMS	√		
Determine Need for Architecture Review Board (ARB)	√		
Start OTSO Questionnaire			√
Conduct Usability Testing	√		
Conduct Second Function Point Analysis	√		
Conduct Milestone Review	√		
Conduct Design Activities	√	√	
Conduct ARB Evaluation	√		
Start Architecture Questionnaire			√
Conduct Security Meeting			√
OTSO Integrated Planning Meeting			√
Develop Code, Unit Test, Systems Test	√		
Develop Software		√	
Conduct Validation	√		
Conduct Initial OTSO Planning Meeting	√		
Conduct Milestone Review	√		

Phase and Activity Name	Standard	Collaboration	Internet
Conduct Implementation ARB Evaluation	√		
Conduct Validation and Verification		√	
Conduct Accessibility Testing			√
Conduct Integration and Environmental Testing	√	√	
Conduct Usability Testing			√
Certify that Software is Production Ready	√		
Start Capacity Planning Activities			√
Conduct Final Validation			√
Conduct Final Integration Testing			√
Release to Training	√		
Move to Production	√	√	√
Total Phase checklist activities	**18**	**8**	**19**
Phase 3: Post-Implementation			
Conduct Functional Point Count	√		
Phase 1 – Post Implementation Review	√	√	
Finalize Documentation		√	√
Correct Errors			√
Pilot Evaluation			√
Conduct Lessons Learned			√
Prepare for National Rollout			√
Conduct Final Capacity Review			√
Total Phase checklist activities	**2**	**2**	**6**
Phase 4: Maintenance			
Establish a Maintenance Management Agreement (MaMA)	√	√	√

Phase and Activity Name	Standard	Collaboration	Internet
Total Phase checklist activities	**1**	**1**	**1**
Phase 5: Tracking and Oversight*			
Baseline Schedule	√	√	√
Conduct Peer Review (IPLC)			
Track Pre-Production Defects (SPLC)			√
Progress Review/Update Schedule	√	√	√
Review and Update Risk Management Plan			√
Review RAS Data	√	√	
Milestone Review	√		√
Project Management Review			
Senior Management Review			
Technical Reviews			
Total Phase checklist activities	**4**	**3**	**5**

* Activities and task identified in Phase 5: Tracking and Oversight are common to the first four SDLC phases. Execution may be required in more than one phase.

Appendix C

Work Product Inconsistencies

Table 48 – Work Product-to-Work Product Matrix

Phase and Work Product Name	Standard	Collaboration	Internet
Phase 1: Planning and Analysis			
Project Kickoff Documents	√	√	√
Meeting Notes (Stakeholder Concurrence)			√
Business Process Document and Issues	√		
Meeting Notes (Business Activity Documentation)			√
Business Process, Business and User Requirements			√
Inputs to High-Level Requirements	√	√	
IT Proposal/Project Initiation Statement		√	
Requirements Document (High-Level Requirements)	√		
Documented Decision (Design Alternatives)	√		
Design Documents (Design Alternatives)	√		
Documented Decision (Need for COTS Evaluation)	√		
Milestone Plan (COTS Alternatives)	√		
Completed Architecture Review (ARB) Questionnaire	√	√	
ARB Questionnaire	√		
Presentation Documents	√		
Security Reports and Findings		√	
OMB Clearance Documents			√
Documented Decision (OTS Procurement)	√		
SSA-393 Purchase/Service/Stock Requisition Form	√		
List of Changes Document	√		
Function Point Analysis Document	√		
Capacity Planning		√	
Risk Assessment/Management Plan			√
Draft Release Project Scope Agreement (PSA)	√		

Phase and Work Product Name	Standard	Collaboration	Internet
General PSA			√
Project Strategy			√
Meeting Notes (Approval) Milestone Review			√
Bundling Decision	√		
Bundled Release Information	√		
IT Planning Decision	√		
Signed, Approved Release Project Scope Agreement (rPSA)	√		
Release Scope Package			√
Approval by Project Team			√
Approval by Sponsoring Component			√
Return on Investment (ROI)			√
Approval of Release-Specific Scope Package			√
Planning Documents	√		
Project Plan		√	
Hand-off			√
Total Phase Work Products	**21**	**7**	**15**
Phase 2: Construction			
Detailed Functional Requirements/Specifications	√		√
Refined Estimate of Size/Duration			√
Data and Database Related Documents		√	
Validation and Testing Plan	√	√	
Validation Plan and Test Scripts/Cases			√
Master Test Plan			√
Procedure Manuals	√		
OTSO Questionnaire			√
Meeting Minutes (Security meeting)			√
Meeting Minutes (OTSO Meeting)			√

Phase and Work Product Name	Standard	Collaboration	Internet
Preliminary Software Development Plan			√
MSP Schedule			√
Decision (Need for ARB Design Review)	√		
Architecture Questionnaire			√
Usability Test Plan and Report	√		
Function Point Analysis (FPA) Results	√		
Updated Planning Documents (Milestone Review)	√		
Design Documents	√	√	√
Code, Activity Code Review, MSOMS (as needed)			√
ARB Findings	√		
Baselined Code	√		
Unit Tested Code		√	
United Testing Modules			√
Accessibility Findings Report			√
Usability Findings			√
Validation Products	√	√	
Capacity Management Plan			√
Final Validation Products			√
Integrated and Environmental Testing Products		√	√
Initial Planning Meeting Notes	√		
Updated Planning Documents (Milestone Review)	√		
Baselined DFR or Functional Specifications (FS) (iteration, build, release)	√	√	
Tested Application	√		
Software Certification Message (e-mail)	√		
Training Environment Software	√		
Completed Application	√	√	
Production Ready Software			√

Phase and Work Product Name	Standard	Collaboration	Internet
Total Phase Work Products	**18**	**8**	**19**
Phase 3: Post-Implementation Review			
Final FPA Count	√		
Post-Implementation Review documents	√		
Finalized Documentation		√	
Lessons Learned/Process Evaluation		√	√
Mandatory Work products			√
Revised, correct application			√
Status Report for Pilot Evaluation			√
Go/No Go Decision			√
Updated key Volume Indicators			√
Total Phase Work Products	**2**	**2**	**6**
Phase 4: Maintenance			
Maintenance Management Agreement	√	√	√
Total Phase Work Products	**1**	**1**	**1**
Phase 5: Tracking and Oversight*			
Baselined MS Project Schedule	√	√	√
Peer Review Products (IPLC)			
Tracked Pre-Production Defects			√
Updated MS Project Schedule – Progress	√	√	√
Updated Risk Management Plan			√
Updated MS Project Schedule – RAS	√	√	
Milestone Review Meeting Notes	√		√
Project Management Review Meeting Notes			
Senior Management Review Meeting Notes			
Total Phase Work Products	**4**	**3**	**5**

* Activities and tasks identified in Phase 5: Tracking and Oversight are common to the first four SDLC phases. Execution may be required in more than one phase.

Appendix D

Standard Phase-Specific Checklist-to-Model-Specific Template Inconsistencies

Table 49 – Standard Task Level Requirements Comparison Results

Phase	Standard Checklist Task Name	Standard Template Issue
Planning and Analysis	Project Kickoff	Wrong task name, Start Project (Project Kickoff), identified on the template.
Planning and Analysis		Extra task, Change Management Procedure, is not required by the checklist.
Planning and Analysis	Project Scoping	Missing from template.
Planning and Analysis	Document Business Process	This is an activity level requirement identified at the task level.
Planning and Analysis	Conduct User and Business Analysis and Design	This is an activity level requirement identified at the task level.
Planning and Analysis	High-Level Design Approval	Missing from template.
Planning and Analysis	Document High-Level Requirement	This is an activity level requirement identified at the task level.
Planning and Analysis	Develop General Project Scope (If Applicable)	This is an activity level requirement identified at the task level.
Planning and Analysis	Determine Need for Design Alternatives	This is an activity level requirement identified at the task level.
Planning and Analysis	Produce Design Alternatives	This is an activity level requirement identified at the task level.
Planning and Analysis	Procurement (Optional)	Missing from template.
Planning and Analysis	Determine Need for OTS Evaluation	This is an activity level requirement identified at the task level.
Planning and Analysis	Consider OTS Evaluation	This is an activity level requirement identified at the task level.
Planning and Analysis	Complete/Submit Architecture Review Board (ARB) Questionnaire	This is an activity level requirement identified at the task level.

Phase	Standard Checklist Task Name	Standard Template Issue
Planning and Analysis	Determine Need for ARB Review	This is an activity level requirement identified at the task level.
Planning and Analysis	Determine Need for OTS Procurement	This is an activity level requirement identified at the task level.
Planning and Analysis	Begin OTS Procurement	This is an activity level requirement identified at the task level.
Planning and Analysis	Project Sizing	Missing from template.
Planning and Analysis	Determine Systems Component Changes	This is an activity level requirement identified at the task level.
Planning and Analysis	Conduct Initial Function Point Analysis	This is an activity level requirement identified at the task level.
Planning and Analysis	Negotiate Release Size and Scope	This is an activity level requirement identified at the task level.
Planning and Analysis	Bundling Initiatives	This is an activity level requirement identified at the task level.
Planning and Analysis	Project Planning	Missing from template.
Planning and Analysis	Obtain Approval to Proceed to Production	This is an activity level requirement identified at the task level.
Planning and Analysis	Obtain rPSA Approval Sign-off	This is an activity level requirement identified at the task level.
Planning and Analysis	Plan the Release	This is an activity level requirement identified at the task level.
Construction	Requirements and Design	Missing from template.
Construction	Detailed Functional Requirements (DFR)/Software Requirements Specification	This is an activity level requirement identified at the task level.
Construction	Detailed Design	This is an activity level requirement identified at the task level.
Construction	Project Planning	Missing from template.

Phase	Standard Checklist Task Name	Standard Template Issue
Construction	Final Testing	Missing from template.
Construction	Conduct Usability Testing	This is an activity level requirement identified at the task level.
Construction		Extra task, Architecture Review Board (ARB) Decision Point, is not required by the checklist.
Construction	Conduct ARB Design Review	This is an activity level requirement identified at the task level. Also, the correct activity name is, Conduct ARB Evaluation.
Construction	Project Checkpoint	Missing from template.
Construction	Conduct Second Function Point Analysis	This is an activity level requirement identified at the task level.
Construction	Conduct Milestone Review	This is an activity level requirement identified at the task level.
Construction	Development and Unit Testing	Missing from template.
Construction	Develop, Code, Unit Test, and System Test	This is an activity level requirement identified at the task level.
Construction	Validation	This is an activity level requirement identified at the task level. Also, the correct activity name is, Conduct Validation.
Construction		Extra task, Software Baseline, is not required by the checklist.
Construction	Conduct Initial OTSO Planning Meeting	This is an activity level requirement identified at the task level.
Construction	Final Testing	Missing from template.
Construction	Prepare for Final Testing	Missing from template.
Construction	Conduct Implementation ARB Evaluation	This is an activity level requirement identified at the task level.
Construction	Integration and Environmental Testing	This is an activity level requirement identified at the task level.

Phase	Standard Checklist Task Name	Standard Template Issue
	Production	Missing from template.
Construction	Certify that Software is Production Ready	This is an activity level requirement identified at the task level.
	Release to Training	This is an activity level requirement identified at the task level.
	Release to Production	This is an activity level requirement identified at the task level.
Post-Implementation	Conduct Final Function Point Analysis	This is an activity level requirement identified at the task level.
	Conduct Lessons Learned/Process Evaluation	This is an activity level requirement identified at the task level.
Maintenance		Missing task name and subordinate activity and work product level requirement to, Establish a Maintenance Management Agreement (MaMA).

Table 50 – Quantity Inconsistencies

Issue	Description
1.	SDLC project model template parent level activity 2 is titled **Configuration Management Procedure.** There is no checklist requirement for this activity.
2.	SDLC project model template parent level activity 6 is titled **Develop General Project Scope.** There is no checklist requirement for this activity.
3.	Planning and Analysis checklist parent activity 12, **Determine Need to Bundle Initiatives,** is a subordinate child level activity of SDLC project model template parent level activity 18, **Bundling Initiatives.**

Table 51 – Naming Convention Inconsistencies

Activity	Checklist Naming Convention	Template Naming Convention
1	Start Project	Start Project (Project kickoff)
11	Conduct ARB Review	Conduct ARB Evaluation
19	Obtain Approval to Proceed with Construction	Obtain Approval to Proceed with Construction(Go/No Go Decision Point if project was approved for P&A only)
20	Obtain Approval for Release Project Scope Agreement (rPSA).	Obtain rPSA Approval Sign-off
21	Plan the Release	Plan the Release (Please read the Note)

Table 52 – Start Project Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template
1.	Complete the Resource Accounting System (RAS) Activation template and forward to their AC Customer Relationship Representative (CRR) planning. Upon receipt, the RAS plan analyst will assign and activate new RAS codes.	Partially
2.	Schedule a meeting with the SPI representative and QA representative for management orientation.	Partially
3.	Prepare the Planning and Analysis schedule (using MS Project) and post on the central repository within one month of RAS activation.	Partially
4.	Contact the Facilitators one week prior to the first meeting.	No
5.	Convene the project team.	Partially
6.	Identify and contact all stakeholders.	No
7.	Review the IT Proposal to ensure an understanding of the business goals and customer expectations.	No
8	Define Teams, Roles, and responsibilities.	Yes
9.	Develop communications plan.	No
10.	Initiate project glossary (define terms used).	No
11.	Contact Component Security Officer, include on the project team.	No
12	Contact the Usability Center to determine the user-centered activities the project will conduct and the level of support the Usability Center will provide.	No
13	Contact an Accessibility Consultant to ensure that accessibility, and "Section 508 compliance" are reflected in the business case and understood by all stakeholders.	No
14	Ensure that everyone understands the stated goals of the project.	No
15.	Determine how decisions will be made, documented and communicated.	No

Table 53 – Document Business Products Comparison Results

Step	Checklist Subordinate Activity	Identified on the Template?
1	Review existing materials and data.	Yes
2	Review business goals.	Partially
3	Identify the users and the processes that are affected.	No
4	Identify the participants and schedule the business process analysis activities.	Partially
5	Document work at the agency level (if multiple components affected).	No
6	Document work at the component/office level.	No
7	Document work at the role level.	No
8	Review the results of the business process analysis with the project sponsors.	Partially

Table 54 – Conduct User and Business Analysis and Design Comparison Results

Step	Subordinate Activity	Checklist Subordinate Activity	Identified on the Template?
1	Analysis	Review existing materials and data.	No
2	Analysis	Review business goals.	No
3	Analysis	Gather information from end users.	Partially
4	Analysis	Conduct thorough evaluation of the existing system (if any).	No
5	Analysis	Create descriptions of the user, task and context.	No
6	Analysis	Conduct detailed task analysis (optional).	No
7	Analysis	Analyze the target platform for implementation.	No
8	Analysis	Document data needs.	Partially
9	Analysis	Summarize findings.	No
1	Design	Create high-level design.	No
2	Design	Determine navigation and interaction model.	Partially
3	Design	Create paper prototypes.	No
4	Design	Document the new or revised business process.	No
5	Design	Conduct walkthroughs with SSA staff and members of target audience.	No
6	Design	Refine the prototype.	No
7	Design	Create high-fidelity functional prototypes (optional).	No
8	Design	Conduct usability tests with members of the target audience.	No
9	Design	Refine the prototype.	No
10	Design	Create instructional content.	No
11	Design	Create data flow diagram and entity relationship diagram (ERD).	No
12	Design	Present the design.	Partially

Table 55 – Document High-Level Requirements Comparison Results

Step	Checklist Subordinate Activity	Identified on the Template?
1	Review the information collected during the previous two activities.	Partially
2	Translate the user requirements into more formal requirements.	Partially
3	Document preliminary nonfunctional requirements.	
4	Conduct walkthroughs of the use cases and requirements statements with SSA staff and members of target audience.	Partially
5	Refine and update the description of the requirements. Based on the results of the walkthroughs, revise to eliminate ambiguity and add missing items.	Partially
6	Create the high-level requirements document.	Partially

Table 56 – Determine Need for OTS Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Sponsor provides user and business requirements to the systems project manager.	Partially
2	A planning schedule is prepared to reflect the activities and timeframes involved with finding a solution.	No
3	Pre-solicitation activities begin to determine what is in the marketplace.	No
4	Conduct market research analysis, gap analysis, risk assessments, and business process analysis on the various products that they receive as a result of the CBD.	No
5	Conduct vendor demonstrations.	Partially
6	Presentations to the ARB concerning platform and architecture issues are given by systems personnel.	No
7	An alternative analysis is prepared using a matrix, which reflects the functionality of each product, the architecture that it supports, licensing, cost, etc. A brief synopsis is provided on each product demonstrated and the pros and cons of each are explained. The systems project manager makes a recommendation to senior management on what product would be best based on user and business requirements.	No

Table 57 – Consider OTS Alternatives Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Establish criteria to address factors that are important to the project.	Partially
2	Conduct market research to determine what is available in the marketplace.	Partially
3	Visit other government agencies to preview products that are under consideration.	No
4	Visit vendor conference or trade shows to explore what is new.	No
5	Requests product pamphlets and brochures.	No

Table 58 – Need for ARB Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Obtain the application for architecture review questionnaire.	Partially
2	Complete the questionnaire and submit it to the ARB staff.	Partially
3	Arrange for a presentation to the ARB.	Yes
4	Review and incorporate ARB recommendations to improve the project's compliance with SSA's IT architecture.	Partially

Table 59 – Determine Need for OTS Procurement Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Accumulate all data from market research, site visits, demonstrations, brochures and pamphlets and formulate the findings into an alternative analysis document.	No
2	Make OTS procurement presentation to senior management.	No

Table 60 – Begin COTS Procurement Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Develop statement of work (SOW) from requirements document.	No
2	Include COTS/GOTS/MOTS work products (ROI, SEI, market research results, COTS risk assessment, milestone planning report).	No
3	Prepare procurements documents (request for proposal (RFP), request for comment (RFC), and request for information (RFI).	No
4	Schedule and conduct vendor briefings/demonstrations.	No
5	Develop acceptance criteria.	No
6	Analyzes documentation and data from alternative analysis, ROI, ARB results or recommendations, risk assessment.	No
7	Review of licensing, warranty, maintenance agreements.	No

Table 61 – Plan the Release Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Using function point analysis and a detailed estimating process, estimate timeframes for selected milestones.	Partially
2	Ensure that RAS codes for the construction phase have been activated.	No
3	Baseline requirements.	Partially

Table 62 – Develop Detailed Functional Requirements/Specifications Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Identify and agree on a detailed understanding of the functionality to be designed and implemented.	Partially
2	Fully define system features needed to provide business and user requirements.	No
3	Fully define interface requirements, functional requirements, non-functional requirements, business rules, data requirements, screen requirements, and report requirements.	No
4	Review requirements already identified (business, user and systems) to determine if they can be revised, refined, or decomposed.	No
5	Elicit data requirements to further define interface requirements, functional requirements, and/or business rules.	No
6	Map documented requirements to the preliminary design.	No
7	Revise/expand initial test cases identified and develop additional test cases for all the requirements that have been identified.	No
8	Identify missing, ambiguous, or incorrect requirements and revise them as appropriate.	No

Table 63 – Plan for Validation and Testing Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Conduct validation planning meeting.	No
2	Document the validation plan.	Yes
3	Construct the validation testing environment and validation tool set.	No
4	Meet with appropriate staffs to plan for accessibility and usability testing.	No

Table 64 – Prepare MSM and POMS Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Determine need for MSOM and POMS.	No
2	Contact the MSOM and POMS staff when it is evident that support is required.	No
3	Provide key validation, publication, and implementation to the MSOM and POMS staff.	No
4	Identify target audience.	No
5	Ensure clearance and coordination of all policies and procedures with all interested components before issuance.	No

Table 65 – Conduct Usability Testing Comparison Results

Step	Checklist Subordinate Activity	Identified on the Template?
1	Prepare a test plan.	No
2	Arrange for resources.	No
3	Recruit end-user test participants.	No
4	Prepare tests cases.	No
5	Prepare administrative test materials.	No
6	Prepare the test environment.	No
7	Prepare test participants.	No
8	Conduct tests and participant wrap-up sessions.	No
9	Conduct overall test debriefing and analyze results.	No
10	Prepare findings and recommendations report.	No

Table 66 – Conduct Design Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Determine use of middleware.	No
2	Determine architecture.	No
3	Design database.	No
4	Create outline of software design.	No
5	Create software flow diagram.	No
6	Involve Software standards committee, if needed.	No
7	Determine involvement of management information and interaction with other systems.	No
8	Develop data matrices.	No
9	Define data transactions (e.g., events in VIP/CSR./DB2).	No

Table 67 – Develop Code, Unit Test, Systems Test Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Write software application.	No
2	Prepare software documentation.	No
3	Share with customer at regular intervals (RAD/JAD).	No
4	Write stored procedures.	No
5	Write user interface code.	No
6	Write screen design.	No
7	Development region.	No
8	Create database.	No
9	Conduct 508/accessibility test, user testing, and iterative validation.	No
10	Register to use QA2.	No
11	Develop code for application calls to DB2 stored procedures.	No
12	Develop code for DB2 stored procedures.	No

Table 68 – Conduct Validation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Prepare system release certificate (SRC) to authorize the movement of the software to validation.	Partially
2	Run test cases in a controlled environment.	Partially
3	Results of how the test cases processed are reviewed to determine if the expected results occurred.	Partially
4	Returned software to the developer for correction if the results are not as expected and the problem is in the software.	Partially
5	Reprocess the corrected software through validation.	No
6	Complete validation analysis report (VAR) completed when validation has been successfully completed.	No
7	Release software to OTSO for integration and environmental testing.	No

Table 69 – OTSO Initial Planning Meeting Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Complete appropriate OTSO questionnaires.	No
2	Circulate questionnaires with within DCS and OTSO to ensure that the project has adequately addressed system security issues, configuration issues, database issues, and integration issues.	No
3	OTSO schedules and conducts the integration-planning meeting.	No

Table 70 – Conduct Milestone Review Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Notify schedule milestone reviews with stakeholders and customer participants.	No
2	Address commitments, plans and status of the project activities.	No
3	Address project risks.	No
4	Discuss the schedule and evaluate the impact of late or early completion on future activities and milestones.	No
5	Identify and document issues, action items, and decisions.	No
6	Update the SDP and MSP schedule as necessary.	No

Table 71 – Conduct Implementation ARB Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Provide an architecture diagram depicting the components of the proposed.	No
2	Complete the application information form for architecture review two weeks in advance of the meeting date.	No
3	Supply an "electronic" copy of handouts to the EITA staff one week in advance of the evaluation.	No

Table 72 – Conduct Integration and Environment Testing Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Initiate the event by sending a request to establish a CAPRS/CMS record and change control board record.	No
2	DIET personnel lead the testing and software certification effort.	No
3	If any performance or integration problems are detected, the software is returned to the developers for correction, re-validated, and then resubmitted for DIET testing. OTSO software tracking records are established (CAPRs/CMS, change control board, and software release tracking system).	No
4	DIET scripting team develops automated testing scripts for the software.	No
5	DIET installation team installs the scripts and software in the DIET test lab.	No
6	Conduct integration testing on four major configurations (Field Office, Office of Hearings and Appeals, Disability Determination Service, and Processing Service Center) for at least one full calendar week.	No
7	Send a software certification message via e-mail to the project's sponsor/manager.	No

Table 73 – Move to Production Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Ensure all required testing has been successfully completed and the software has been certified.	No
2	Migrate the application and associated security elements to the production environment.	Partially

Table 74 – Conduct Final Function Point Count Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Schedule a project team meeting to perform the final Function Point Analysis.	Partially
2	Correct the detailed RAS project report.	Partially
3	Record the total functions and work months in the Measurement Date Base to support future planning efforts.	Partially

Table 75 – Conduct Lessons Learned and Process Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Convene a meeting to evaluate what worked and what didn't throughout the life of the project.	Partially
2	Identify and distribute specific processes, procedures, and activities identified by the PM for evaluation prior to the meeting.	Partially
3	Consider processes and procedures that the project used and activities that were performed beyond those suggested by the PM and SDLC model.	Partially
4	Identify processes, procedures, or activities modified during the life of the project.	Partially
5	Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques.	Partially
6	Submit recommendations to the systems process improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.	Partially

Table 76 – (Omitted) Establish a Maintenance Management Agreement (MaMA) Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Review the software maintenance plan (SMP).	No
2	Complete the MaMA .	No
3	Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change.	No
4	Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability.	No
5	Manage changes to the MaMA.	No

Appendix E

Collaboration Phase-Specific Checklist-to-Model-Specific Template Inconsistencies

Table 77 – Collaboration Task Level Requirements Comparison Results

Phase	Collaboration Checklist Task Name	Collaboration Template Issue
Planning and Analysis	Project Kickoff	Wrong task name, Start Project, identified on the template.
Planning and Analysis	Project Scoping	Wrong task name, Define Project Scope and High-Level Requirements, identified on the template.
Planning and Analysis	Define High-Level Requirements	This is an activity level requirement identified at the task level.
Planning and Analysis		Extra task, Conduct Function Point Analysis, is not required by the checklist.
Planning and Analysis		Extra task, Create High-Level Design Documents, is not required by the checklist.
Planning and Analysis		Extra task, Procurement/Budget Activities, is not required by the checklist.
Planning and Analysis	Present to ARB	This is an activity level requirement identified at the task level.
Planning and Analysis	Identify and Initiate Appropriate Security Activities	This is an activity level requirement identified at the task level. The correct activity name is, Conduct Appropriate Security Activities.
Planning and Analysis	Conduct Capacity Planning	This is an activity level requirement identified at the task level.
Planning and Analysis		Extra task, Developer Orientation, is not required by the checklist.
Planning and Analysis		Extra task, Develop Release Specific PSA, is not required by the checklist.

Phase	Collaboration Checklist Task Name	Collaboration Template Issue
Planning and Analysis		Extra task, Plan the Construction Phase, is not required by the checklist.
Planning and Analysis		Extra task, P&A Tracking, is not required by the checklist.
Planning and Analysis	Project Planning	Missing from template.
Construction	Requirements and Design	Missing from template.
Construction	Conduct Requirements Analysis	This is an activity level requirement identified at the task level.
Construction	Conduct Appropriate Database Activities	This is an activity level requirement identified at the task level.
Construction	Conduct Design Activities	This is an activity level requirement identified at the task level.
Construction		Extra task, Plan for Validation Testing, is not required by the checklist.
Construction	Development	Wrong task name, Software Development, identified on the template.
Construction	Conduct Validation and Verification	This is an activity level requirement identified at the task level.
Construction	Conduct Integration and Environmental Testing	This is an activity level requirement identified at the task level.
Post-Implementation	Project Closure	Missing from template.
	Finalize Documentation	This is an activity level requirement identified at the task level.
	Conduct Process Evaluation/Lessons Learned	This is an activity level requirement identified at the task level.
Maintenance	Establish Maintenance Management Agreement	This is an activity level requirement identified at the task level.

Table 78 – Start Project Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Complete the Resource Accounting System (RAS) activation template and forward to the AC customer relationship representative (CRR).	Yes
2	Prepare the planning and analysis schedule (using MS Project) and post on the central repository within one month of RAS activation.	No
3	Contact facilitators one week prior to the first meeting.	No
4	Convene project team to ensure that everyone understands the stated goals of the project.	Yes
5	Identify and contact all stakeholders (e.g., Security, Infrastructure).	No
6	Review the IT proposal.	Yes
7	Define teams, roles, and responsibilities.	Yes
8	Develop communications plan to determine how decisions will be made, documented, and communicated.	No
9	Initiate project glossary (define terms used).	No
10	Develop the MS Project schedule for planning and analysis.	No
11	Contact SPI/QA representative) and schedule an SPI orientation, including a review of the lifecycle for the entire team.	No
12	Contact component security officer, include on the project team.	No
13	Contact a user centered design consultant and accessibility consultant to ensure that accessibility, and “Section 508 compliance” are reflected in the business case and understood by all stakeholders.	No

Table 79 – Conduct Appropriate Security Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Conduct various security meetings.	Yes
2	Conduct security risk assessment – FRAP (Facilitated Risk Assessment Process).	No
3	Request for SACs and ObjectIDs for ESI/top secret access/ security access.	Partially
4	Determine owners of programmatic data (e.g., IRS).	Yes
5	Submit a Safeguard Procedures Report (SPR), or an addendum to existing ones SSA already has with IRS for the use of such data.	No
6	Submit various 120s and 613s for access to Endevor, SEF DB2, integration, training, and production regions, as well as appropriate profiles.	Yes
7	Request new systems of records.	No
8	Consider privacy issues.	No
9	Ensure that business or systems project manager or regional security officer provide SSNs to central office for testing, to ensure any inputs are properly appearing on audit trails, and are thus subject to the Comprehensive Integrity Review Process (CIRP) reviews.	No
10	Determine if data is available from SSA Access to State Records Online (SASRO) agreement.	No
11	Request profile changes, as needed.	No

Table 80 – Conduct Capacity Planning Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Establish the level of service required by groups of users of this system (availability, transaction response time, transaction activity).	Yes
2	Define initial capacity requirements in the of high-level requirements document.	No
3	Determine if this process is covered under current business continuity plan. If not, initiate actions to incorporate into the business continuity plan.	No
4	Determine requirements for procurement of hardware needed to support development and production.	Yes
5	Develop a repository of service level objectives associated with the approved hardware platforms to cover planned levels of hardware availability, application availability, transaction response time, and system support.	No
6	Conduct a series of meetings to consolidate the user's service level requirements, the operations component's service level objectives and the results of application tuning to create a Service Level Agreement (SLA).	No
7	Construct testing and perform analysis to support the application development process. Identify and provide performance recommendations and recommendations for infrastructure changes. Develop the preliminary backup/recovery plan to insure process and data integrity.	No
8	Evaluate the performance of the application and the transactions contained within the application.	No
9	Identify and provide performance recommendations and recommendations for infrastructure changes. Develop the preliminary backup/recovery plan to insure process and data integrity.	No
10	Provide recommendations for changes during the entire development process.	No
11	Provide developers with information necessary to make the application transactions.	No
12	For high risk application, determine the impact of high volume activity on the application and infrastructure.	No

Item	Checklist Subordinate Activity	Identified on the Template?
13	Implement routine data collection processes to monitor key metrics to facilitate the reporting of application resource utilization and transaction response time.	No

Table 81 – Develop Project Plan Comparison Results

Item	Checklist Subordinate Activity	Item
1	Create Project Schedule.	No
2	Create Software Development Plan.	No
3	Create Collaboration MSP template in Excel format.	No

Table 82 – Conduct Requirements Analysis Comparison Results

Item	Checklist Subordinate Activity	Item
1	Identify data needs.	Yes
2	Document business logic.	Yes
3	Identify desired outputs (e.g., notices, data, MI, data to other databases/ applications, etc.).	Yes
4	Conduct user needs analysis/use case analysis.	Yes
5	Identify/document logical data model.	No
6	Determine involvement of management information and interaction with other systems.	No
7	Refine non-functional requirements (flexibility, scalability, usability/accessibility).	No
8	Identify preliminary architecture model.	No
9	Identify design and requirements for "middleware" utilities.	No
10	Make DASD request.	Yes
11	Develop backup/recovery plan.	Yes
12	Develop service level objectives.	Yes
13	Develop screen layouts, batch record descriptions, and report layouts.	Yes
14	Create DFD at level 1.0 or lower with descriptions of processes and data flows.	No
15	List functional, user interface, external systems interface, system interface requirements.	No

Table 83 – Conduct Design Activities Comparison Results

Item	Checklist Subordinate Activity	Item
1	Determine use of middleware.	Yes
2	Determine architecture.	No
3	Design database.	No
4	Create outline of software design.	Yes
5	Create software flow diagram.	Yes
6	Software standards committee, if needed.	No
7	Involvement of management information and interaction with other systems.	Yes
8	Develop data matrices.	Yes
9	Define data transactions (e.g., events in VIP/CSR/DB2).	Yes

Table 84 – Develop Software Comparison Results

Item	Checklist Subordinate Activity	Item
1	Write software application.	Yes
2	Prepare software documentation.	Yes
3	Share with customer at regular intervals (RAD/JAD).	Yes
4	Write stored procedures.	No
5	Write user interface code.	No
6	Write screen design.	No
7	Development region.	No
8	Create database.	No
9	Perform testing (508/accessibility testing, user testing, and iterative validation).	Yes
10	Register to use QA2 (formerly SRCOL).	Yes
11	Develop code for application calls to DB2 stored procedures.	No
12	Develop code for DB2 stored procedures.	No

Table 85 – Conduct Process Evaluation and Lessons Learned Comparison Results

Item	Checklist Subordinate Activity	Item
1	Convene the project team to evaluate the overall internal business process to determine what worked, what didn't work, and how SSA could improve its approach to other applications.	Yes
2	Utilize an experienced facilitator to conduct process review sessions, if desired.	Yes
3	Invite the SPI/measurement team to conduct a final function point count using this project as an example to calibrate its estimating tool for similar projects in the future.	Yes
4	Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques.	No
5	Make a final presentation to the architecture review board (ARB) to enable the ARB to identify new architecture models needed or to update existing models in its repository.	No
6	Submit recommendations to the Systems Process Improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.	Yes

Table 86 – Establish a Maintenance Management Agreement (MaMA)

Item	Checklist Subordinate Activity	Identified on the Template?
1	Review the software maintenance plan (SMP).	Yes
2	Complete the MaMA.	No
3	Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change.	No
4	Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability.	No
5	Manage changes to the MaMA.	No

Appendix F

Internet Phase-Specific Checklist-to-Model-Specific Template Inconsistencies

Table 87 – Internet Task Level Requirements Comparison Results

Phase	Internet Checklist Task Name	Internet Template Issue
Planning and Analysis		Extra task, Operations Support, is not required by the checklist.
Planning and Analysis		Extra task, Handoff to SDPM, is not required by the checklist.
Construction	Prepare for Final Testing	Missing from template.
Construction	Move to Production	Template task name reads Production. The words, Move to, have been omitted.
Construction		Extra task, Collaboration Design and Functional Specifications, is not required by the checklist.
Construction	Planning	Template task name reads Collaborative Planning. The word, Collaborative, is not required.
Post-Implementation	Documentation Refinement	Missing from template.
Post-Implementation		Extra task, Implement Pilot, is not required by the checklist.
Post-Implementation	Finalize Documentation	This is an activity level requirement identified at the task level.
Post-Implementation	Correct Errors	This is an activity level requirement identified at the task level.
Post-Implementation	Conduct Evaluation of Pilot	This is an activity level requirement identified at the task level.
Post-Implementation	Conduct Lessons Learned	This is an activity level requirement identified at the task level.
Post-Implementation	Prepare for National Rollout	This is an activity level requirement identified at the task level.
Post-Implementation		Extra task, Capacity Management Activities in Production, is not required by the checklist.

Maintenance		No maintenance phase is identified on the template.

Table 88 – Start Project Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Convene project team.	Yes
2	Create communication plan.	No
3	Document roles and responsibilities.	No
4	Create contact list.	No
5	Develop a method for managing change.	No
6	Meet with the SPI representative and QA representative (if applicable) for management orientation.	No
7	Schedule milestone and project status meetings.	No
8	Determine how the office of systems customer satisfaction indicator for projects that are tracked via the Vital Signs & Observations Report (VISOR) will be determined.	No

Table 89 – Conduct Consultations Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Determine OMB clearance needs.	No
2	Determine the need for legal and privacy consultation.	No
3	Identify stakeholders.	No
4	Determine the need for congressional consultation.	No
5	Schedule project status meetings with senior management.	No

Table 90 – Conduct Business Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Pursue labor management relations.	No
2	Determine level of customer support.	No
3	Determine strategy for processing operational workloads.	No
4	Determine marketing strategy.	No
5	Review and develop regulations and instructional materials.	No

Table 91 – Document Business Process, Business and User Requirement Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Review business requirements.	Yes
2	Translate the user requirements into more formal requirements.	No
3	Document preliminary nonfunctional requirements.	No
4	Conduct walkthroughs of the use cases and requirements statements with SSA staff and members of target audience.	No
5	Refine and update the description of the requirements.	No
6	Create the high-level requirements document.	No

Table 92 – Assess Risks Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Identify and document risks.	Partially
2	Perform risk analysis and mitigation.	No
3	As appropriate, document risks in the Risk Identifications and Mitigation System (RIMS) or in Excel or Word format.	No

Table 93 – Define Project Scope Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Coordinate Project Scope Agreement (PSA) process to clarify, prioritize, refine, and document the understanding of the general requirements with the customer.	No
2	Conduct iterative work sessions with the customer(s) and other affected groups.	No
3	Identify information relating to agency standards, and project, organizational and policy dependencies.	No
4	Begin identifying the project's business and technical (if known) risks at this point. Risks are identified and documented in the project's software development plan, but must be considered when defining the scope of a project.	No
5	Once the general PSA is defined and sizing has taken place, a determination can be made on the need for more than one software release.	No

Table 94 – Determine Implementation Strategy Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Sponsor/developer team reviews and incorporates data from all work products produced to date, including the project objectives, business requirements, business risks, and return on investment.	No
2	The project team will determine the business process requirements and methods for achieving the objectives.	No
3	Described in detail all phases through national rollout in accordance with the tasks outlined in this SDLC project plan.	No
4	The sponsor presents the proposed strategy to the AC eGov Steering Committee, which oversees Internet activities for SSA. They can concur with the strategy or ask for further changes and/or information. The project does not proceed until they have approved a strategy.	No

Table 95 – Conduct Milestone Review Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Schedule the session in advance with the ac eGov steering committee.	No
2	Notify participants in advance and provide meeting materials for review and approval by the responsible managers.	No
3	Discuss the scope agreed to by the project team.	No
4	Address commitments, plans and status of the project activities.	No
5	Address project risks.	No
6	Discuss the schedule and evaluate the impact of late or early completion on future activities and milestones.	No
7	Identify and document issues, action items, and decisions.	No
8	Update the SDP and MSP schedule, as necessary.	No
9	Prepare a summary status report from the review and distribute to those involved.	No

Table 96 – Obtain Team Approval Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Disseminate each element of the completed release scope package to all project team members for comment/approval.	No
2	Project team members ensure that all elements of the package have been shared with the management of their component. All comments are submitted to the project team for consideration.	No
3	Each member's response and/or comments must be considered by the project team and documented in meeting notes as to why they were or were not incorporated.	No
4	The project team reaches consensus for approval of all elements of the release scope package.	Yes

Table 97 – Obtain Sponsoring Component Approval Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	After the team approval process of the release scope package has been completed, key team members present all elements of the finalized release scope agreement to the sponsoring component's AC.	No
2	Allow for and respond to questions and comments.	No
3	Receive approval of the release scope package.	Yes

Table 98 – Identify ROI Captured for Release Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Determine the need for a Cost Benefit Analysis (CBA).	No
2	Determine the level of CBA detail.	No
3	Execute the nine step CBA process.	No

Table 99 – Approval of Release Scope Package Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Ensure that the project team and sponsoring component agrees with the recommended approach.	No
2	Ensure that the general project scope agreement is approved.	No
3	The team creates and presents a presentation to the AC eGov steering committee discussing the project strategy, strawman screens, the navigation model, and the survey questions. Development resource commitments and availability is discussed.	No
4	Gain written approval (signatures) of the entire AC eGov steering committee before proceeding.	No
5	The project team continues to refine the CBA/ROI document using information that is collected during the negotiation of the release-specific PSA.	No

Table 100 – First Function Point Analysis (FPA) Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	FPA is led by a member of the software measurement team conducting one or more interviews with the project manager and reviewing the functional requirements derived during project startup.	No
2	Use SEER-SEM tool. Input to the tool includes the function point count or size information, known constraints or dependencies relating to effort and schedule, and process attributes of the proposed system.	No
3	Based on SEER-SEM tool results, develop "what if" scenarios should there be a need to adjust resources or schedule.	No
4	FPA results from the activities are documented in the estimates section of the project's software development plan.	No
5	Create the initial work breakdown structure (WBS) based on FPA results.	No

Table 101 – Plan the Release Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Schedule a meeting with the process consultant to assist with the identification of the products that will be managed and controlled, and to determine which ones will be baselined.	No
2	Contact the systems component security officer to plan and identify the approach that will be taken to ensure the security of the system and data.	No
3	Identify the activities that must be tracked and the mechanism(s) to be used for tracking and reporting progress.	No
4	Contact the measurement team for the first FPA. Include the FPA documentation that was produced which determined the initial estimates for size and level of effort (this can be attached as an addendum to the SDP and referenced in section ix, estimates and schedule).	No
5	Complete the SDLC plan based upon experience with similar projects or complete portions of the SDLC plan by conducting brainstorming sessions with project team members.	No
6	Solicit information from other sources such as security officer, quality assurance representative, operational components, etc., to complete sections of the document.	No
7	If the application is contractor developed, the contractor creates a System External Specification (SES), Systems Internal Specification (SIS), a Systems Requirement Document, a Version Description Document (VDD), and a Systems Design Specification (SDS) for each application. After internal peer reviews are conducted on these documents, they are delivered to the sponsoring component.	No

Table 102 – Create Schedule Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Begin developing the WBS when the project has been sized, the lifecycle has been determined, and the products have been identified.	No
2	Should be developed use the Microsoft project (MSP) template for the Internet lifecycle to develop the project's schedule/WBS. The template identifies the specific activities that must be performed to produce the project deliverables.	No
3	Use the Function Point Analysis (FPA) schedule as a starting point to create the schedule/WBS.	No
4	Conduct a detailed-level project estimate for scheduling.	No
5	Review the schedule at the end of each phase to determine if revisions are needed based on new information received or changes that have occurred. Detailed tasks should be added at this time for the next phase.	No
6	Publish and maintain the SDLC project schedule.	Yes

Table 103 – Develop Detailed Design Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	The systems project manager, tech team, and sponsor (and frequently, the usability center) work collaboratively to simultaneously develop functional specifications, design system architecture and components, and begin development of software components.	No
2	When issues arise that must be resolved, the project sponsor may seek input from the usability center and other project team members and must use the change management procedure for the project to escalate the decision to the agreed upon authority.	No
3	Produce project documentation such as lists of data elements, record layouts, and architecture diagrams	No
4	Document decisions in meeting notes.	No
5	When the software is being developed by an outside contractor, the contractor creates evolving prototypes. They are periodically reviewed by the sponsoring component. The contractor works through the sponsoring component project manager with OESAE/DDBS and any other DCS components necessary to develop the application.	No
6	Update the Software Development Plan (SDP) using change management procedures.	Partially

Table 104 – Conduct Development Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Develop software to support Internet applications using tools on the SSA Software Tools List.	No
2	Identify Internet screen development resources.	No
3	For contractor developed applications, the contractor creates evolving prototypes that are periodically reviewed by the sponsoring component. The contractor works through the sponsoring component project manager with OESAE/DDBS and any other DCS components necessary to develop the application.	No
4	Ensure monitoring capabilities are included in the Internet application.	No
5	Ensure Internet applications meet the requirements of Section 508 of the Americans with Disabilities Act.	Yes
6	Arrange for DCS to write the software code to interface to mainframe software if revisions to existing mainframe software and/or new mainframe software are needed to support the Internet application.	No
7	Arrange for DCS to write the software code needed to produce MI and WMI.	No
8	Code is produced to satisfy customer requirements.	No

Table 105 – Conduct Unit Testing, Usability, Accessibility, Pre-Validation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Ensure validators participate in the development team from the outset, attending collaborative meetings so that they can capture information about the project as it emerges.	No
2	Ensure validators incorporate their understanding into a validation questionnaire that is the basis for a master test plan for testing all the software and for building an adequate test environment.	No
3	Ensure functional requirements are converted into a series of test scenarios.	Yes
4	Independent validators define test conditions for each unit of software developed.	No
5	Independent validators construct base test scripts.	No
6	Independent validators follow documented test scenarios, keying transactions and reviewing the output.	No
7	Independent validators continue testing until all units of code have been tested and are verified as performing correctly.	No
8	Produce united test modules.	No
9	Issue Unit Verification Report indicating that units of code have been tested and are verified as performing correctly.	No

Table 106 – Develop Master Test Plan Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Create the Master Test Plan (MTP) to assign testing responsibilities and identify all activities necessary to test and validate applications developed using the WebSphere Internet application architecture.	No
2	Publish and manage the MTP.	No

Table 107 – Plan for Validation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Create Validation Plan and Test Scripts/Cases.	No
2	Publish and manage the Validation Plan and Test Scripts/Cases.	No
3	Combine and register test scripts and scenarios used in unit testing.	Partially
4	Independent validators follow the entire series of documented test scenarios for transaction keying and reviewing output.	No
5	If the application is contractor developed, it is turned over to the sponsoring component that conducts the validation of the application and arranges for validation of any legacy system changes and related MI applications.	No
6	If any problems are detected, the software is returned to the developers for correction, unit tested, and resubmitted for final validation.	No

Table 108 – Start Architecture Questionnaire Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Obtain the Application for Architecture questionnaire from the Architecture Review Board (ARB) site.	No
2	Complete the questionnaire and submit it to the ARB staff to initiate the ARB process.	No
3	Make presentation ARB staff as necessary.	No
4	Incorporate ARB recommendations to improve the project's compliance with SSA's IT architecture.	No
5	Update and manage the ARB questionnaire throughout the project's lifecycle.	No

Table 109 – Conduct Security Meeting Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Software development project manager and the component security officer (CSO) ensure that the applications they develop provide the required level of confidentiality, integrity, availability and reliability.	Partially
2	Update and manage the OTSO Questionnaire.	No

Table 110 – OTSO Integrated Planning Meeting Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Meet with OTSO, the project team, and all affected stakeholders. For contractor developed applications, the sponsoring component has the lead on ensuring that this activity is completed.	No
2	Update and manage the OTSO Questionnaire.	No

Table 111 – Conduct Accessibility Testing Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Conduct final accessibility testing of the entire application (all builds) to ensure compliance with Section 508 of the Rehabilitation Act of 1973.	No
2	Publish and mange an Accessibility Findings Report.	No

Table 112 – Conduct Usability Testing Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Prepare a test plan.	No
2	Arrange for resources.	No
3	Recruit end-user test participants.	No
4	Prepare tests cases.	No
5	Prepare administrative test materials.	No
6	Prepare the test environment.	No
7	Prepare test participants.	No
8	Conduct tests and participant wrap-up sessions.	No
9	Conduct overall test debriefing and analyze results.	No
10	Publish and manage a Findings and Recommendations report.	No

Table 113 – Start Capacity Planning Activities Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Develop, publish and manage application-specific documents detailing the capacity management approach, service level requirements, service objectives, and systems security requirements. For contractor developed applications, the sponsoring component must contact the capacity planning staff.	No
2	Identify key business functions to be monitored and a preliminary workload analysis and capacity risk assessment based on the release-specific PSA.	No

Table 114 – Conduct Final Validation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Test scenarios that were used in unit testing are combined and retested together. If the application is contractor developed, it is turned over to the sponsoring component. The sponsoring component conducts the validation of the application. The sponsoring component arranges for validation of any legacy system changes and related MI applications.	Partially
2	Independent validators follow the entire series of documented test scenarios for transaction keying and reviewing output.	No
3	If any problems are detected, the software is returned to the developers for correction, unit tested, and resubmitted for final validation.	No

Table 115 – Conduct Final Integration Testing Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Arrange for testing by DIET and Batch Integrated Testing (BIT) staff personnel.	Partially
2	Modify the Internet software to make it available on the Intranet for SSA employees to view before it is made available to the public.	No
3	Provide the URL to the CO components that were involved in the development effort.	Partially
4.	As necessary, return the software to developers for correction, revalidation, and resubmission to DIET.	No

Table 116 – Release to Production Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Ensure that all required testing has been successfully completed.	No
2	Migrate the application software and associated security elements to the production environment.	No
3	Notify the pilot audience of its URL.	Partially
4.	Conduct a final configuration management audit of the software.	Yes

Table 117 – Pilot Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Collect and evaluate customer feedback received via the ssa.gov Web site.	Yes
2	Review feedback to identify problems and concerns raised by the public.	Partially
3	Survey non-respondents when possible as to why the Web site was not used.	No
4.	Evaluate data quality to ensure that no errors have been introduced into the process.	No
5	Evaluate need for changes in screen language or help screens.	No
6	Ensure the Office of Workforce Analysis evaluates processing speed and workload processing issues that may arise.	No
7	Prepare and distribute a pilot evaluation status report.	No

Table 118 – Conduct Lessons Learned/Process Evaluation Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Convene the project team to evaluate the overall internal business process to determine what worked, what didn't work, and how SSA could improve its approach to other applications.	Yes
2	Utilize an experienced facilitator to conduct process review sessions, if desired.	Yes
3	Invite the SPI/measurement team to conduct a final function point count using this project as an example to calibrate its estimating tool for similar projects in the future.	Yes
4	Share the results with subsequent project teams by recommending changes to user interfaces, tools, and techniques.	No
5	Make a final presentation to the architecture review board (ARB) to enable the ARB to identify new architecture models needed or to update existing models in its repository.	No
6	Submit recommendations to the systems process improvement (SPI) team regarding the lifecycle and related tools, including changes to PRIDE.	Yes

Table 119 – Prepare for National Rollout Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Based on the pilot evaluation, any necessary changes are made.	Yes
2	Other sponsoring component presents the pilot results and an implementation recommendation to the ac eGov steering committee. The AC eGov steering committee makes the go/no go decision and may provide further direction.	Yes
3	Coordinate training for SSA employees for nationwide rollout. Consideration is given to the large numbers of employees that might be involved, especially for FOs and TSCs. This may require an extended training period before the software moves into production.	Yes
4	Implement the application on a mutually agreed date. This date may be driven by parties external to SSA, such as the White House or Congress.	No
5	OQA and OWA collect evaluation data about processing time, payment accuracy, notice accuracy, processing problems or delays, and customer satisfaction.	No
6	The project team works with OQA and OWA to use the data to assess the need for systems improvements, enhancements, or process revisions.	Yes

Table 120 – Establish a Maintenance Management Agreement (MaMA) Comparison Results

Item	Checklist Subordinate Activity	Identified on the Template?
1	Review the Software Maintenance Plan (SMP).	No
2	Complete the MaMA.	No
3	Document new requirements for maintenance releases in sufficient detail to allow the software maintenance team to assess the scope and technical feasibility of the change.	No
4	Review new requirements to ensure completeness, feasibility, clarity, consistency, and testability.	No
5	Manage changes to the MaMA.	No

Appendix G

Acronyms

ACSC	AC eGov Steering Committee
ARB	Architecture Review Board
BIT	Batch Integrated Testing
CAPRS	Change Asset Problem Reporting System
CBA	Cost Benefit Analysis
CBD	Commerce Business Daily
CDR	Critical Design Review
CI	Configuration Item
CIRP	Comprehensive Integrity Review Process
CM	Change/Configuration Management
CMM	Capability Maturity Model
CMS	Center for Management Support
CO	Central Office
COTS	Commercial Off-The-Shelf
CRR	Customer Relationship Representative
CSCI	Computer Software Configuration Items
CSO	Component Security Officer
CSR	Customer Service Record
DASD	Direct Access Storage Device (“hard disc”)
DB2	IBM DB2 Database Management System
DCS	Deputy Commissioner for System
DFD	Data Flow Diagram
DFR	Detailed Functional Requirements
DIET	Division of Integration and Environment Testing
ECN	Engineering Change Notices
EITA	Enterprise Information Technology Architecture
ERD	Entity Relationship Diagram

ESI	Enterprise Security Interface
FCA	Functional Configuration Audit
FDR	Functional Data Requirements
FOs	Field Offices
FPA	Functional Point Analysis
FRAP	Facilitated Risk Assessment Process
FS	Functional Specifications
GOTS	Government-developed Off-The-Shelf
IPLC	Internet Project Lifecycle
IRS	Internal Revenue Service
JAD	Joint Application Design
KPA	Key Process Area
MaMA	Maintenance Management Agreement
MI	Management Information
MOTS	Modified Off-The-Shelf
MSOM	Modernized Systems Operational Manuals
MSC	Management Steering Committee
MSP	Microsoft Project
MTP	Master Test Plan
NoR	Notices of Revisions
OESAE/DDBS	Office of Enterprise Support, Architecture & Engineering/Division of Data Base Systems
OMB	Office of Management and Budget
OQA	Office of Quality Assurance
OTS	Off-the-Shelf
OTSO	Office of Telecommunications and Systems Operations
OWA	Office of Workforce Analysis
P&A	Planning and Analysis
PCA	Physical Configuration Audit

PDR	Preliminary Design Review
PM	Project Manager
POC	Points of Contact
POMS	Program Operational Manual System
PRIDE	Project Resource Guide
PRR	Product Readiness Review
PSA	Project Scope Agreement
QA	Quality Assurance
QA2	Quality Assurance System (replaced the SRCOL – System Release Certification Online – system)
rPSA	Release Project Scope Agreement
RAD	Rapid Application Development
RAS	Resource Accounting System
RFC	Request For Comment
RFI	Request For Information
RFP	Request For Proposal
RIMS	Risk Identification and Mitigation System
ROI	Return on Investment
RTM	Requirements Traceability Matrix
SACs	Standard Administrative Codes
SASRO	SSA Access to State Records Online
SDLC	Software Development Lifecycle
SDP	Software Development Plan
SDR	System Design Review
SDS	Systems Design Specification
SEER-SEM	System Evaluation & Estimation Resources – System Estimation Model
SEF	Software Engineering Facility (this is now called ESEF – Enterprise SEF)
SEI	Special Expense Items

SES	System External Specification
SIS	Systems Internal Specification
SLA	Service Level Agreement
SMP	Software Maintenance Plan
SOW	Statement Of Work
SPI	Systems Process Improvement
SPLC	Standard Project Lifecycle
SPR	Safeguard Procedures Report
SRC	System Release Certificate
SRCOL	Systems Release Certification On-Line system
SRD	Systems Requirement Document
SRR	System Requirements Review
SRS	System Requirements Specification
SSA	Social Security Administration
SSN	Social Security Number
SSR	Software Specification Review
TRR	Test Readiness Review
TSCs	Teleservice Centers
URL	Uniform Resource Locator
VAR	Validation Analysis Report
VDD	Version Description Document
VIP	Visitor Intake Process
VISOR	Vital Signs and Observation Reports
WBS	Work Breakdown Structure
WMI	Workload Management Information