G E N I

Global Environment for Network Innovations

Spiral 3 Integration Releases

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1 Document Scope

This document captures suggested software release methods that should be used for the Global Environment for Network Innovations (GENI) Spiral 3 Integration Release 1 (GIR3.1) and Release 2 (GIR 3.2). The first phase, GIR3.1, will capture working versions of software that have been integrated in GENI as of March 2011. The second phase, GIR 3.2, will focus on software that is available as of September 2011. This document describes completion criteria that are helpful for any software deliverable associated with a feature milestone. The overall goal of this document is to provide completion guidelines for milestones that allow answers to some very simple question, such as: *"What is the purpose of this software?", "Where is it located?", "How do you use it? ",* etc.

The identified completion guidelines should make it easier for existing GENI community members to collaborate and for new teams to join GENI.

1.1 Purpose of this Document

The purpose of this policy is to communicate common guidelines for contributing software to Spiral 3 GENI Integration Releases. The primary intended audience for this document is GENI contributors who develop software, resources demonstrations and documentation for GENI. The secondary intended audience includes the GENI community, the GPO, and the National Science Foundation. Projects and GENI clusters can and do have additional software guidelines that supplement these common GENI guidelines.

1.2 Context for this Document

Figure 1. below shows the context for this document within GENI's overall document tree.

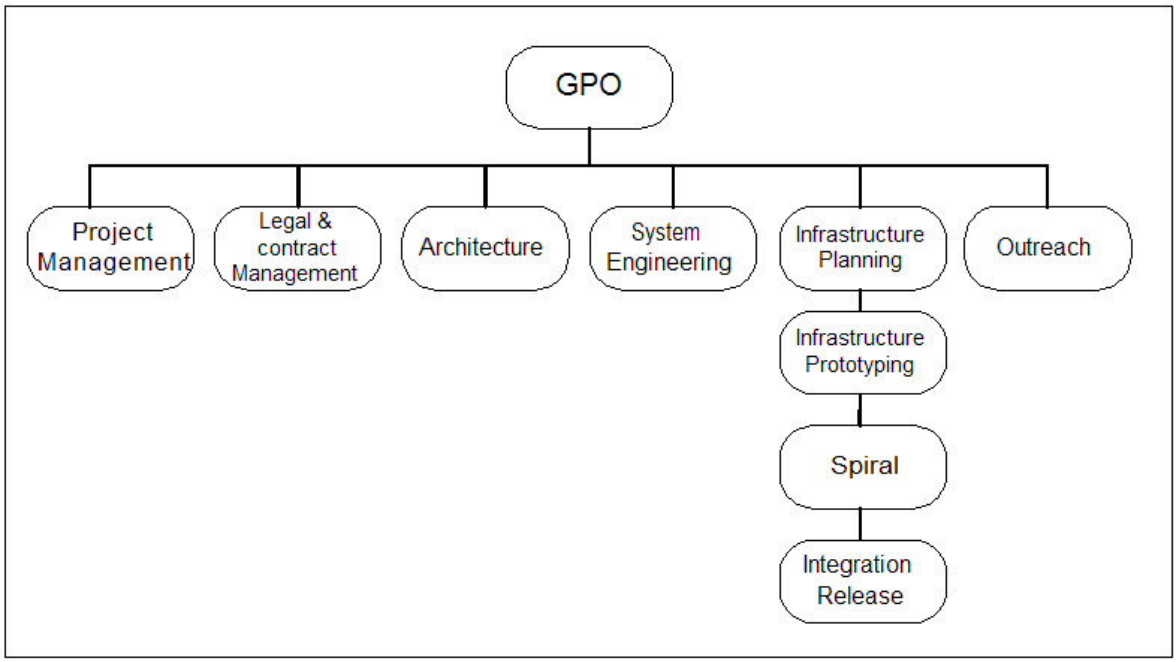

Figure 1. This Document within the GENI Document Tree.

1.3 Document Revision History

The following table provides the revision history for this document, summarizing the date at which it was revised, who revised it, and a brief summary of the changes. This list is maintained in reverse chronological order so the newest revision comes first in the list.

Revision	Date	Revised By	Summary of Changes
1.0	02/11/11	Luisa Nevers	Initial Spiral 3 Revision

2 GENI Milestone Completion

All GIR 3 milestone types should consider the completion procedure defined in this section, when meeting the "completed" state. GENI Spiral participating projects identify their most important contributions, and estimate their completion date with publicly tracked milestones. The GPO system Engineers work with each project to ensure that completed milestones are made available to the GENI community and can be easily accessed, using this document as a checklist. The GIR 3 milestone completion guidelines are given herein to facilitate the transition of features to the user community.

Spiral 3 milestones are part of GIR and may be categorized into several milestone types:

1. Software Milestones - Clearly identified as software release in the milestone description.
2. Resource Milestones - Resources milestones supply a service to the GENI community. Resources may have a software component, such as plugins, to make the resource available.
3. Integration Demonstration Milestones - Demonstrations that integrate features from multiple projects requiring software development.
4. Documentation Milestones - Documentation milestones are crucial part of the deliverable because they capture a step towards the software solutions.

Section 2 details completion guidelines for each of these 4 milestone types.

2.1 Software Milestone Completion Guidelines

Software milestones identify releases of software features to the GENI user community. The following should be captured for each software milestone as part of the milestone completion process:

- define software scope--what feature(s) does the software deliver?
- capture dependencies in order to provide full state of a feature (packages, install order, hardware)
- access to software (repository, tags, package download), software required to access repository, if any, and user account requirements to access software, if any,
- pre-requisite software such as tools versions, (ex. JDK, etc) and/or prerequisite software versions (ex. DB, Vendor Libraries, etc.)
- software location, may be repository access with tags, or URL, etc.
- build instructions
- installation instructions (capture administrative requirements, component sequence, etc)
- upgrade instructions, when applicable
- configuration instructions, such as end-user runtime required settings (example environment variables.)
- runtime instructions
- terminology definitions and use in naming throughout documentation and software
- versioning information used to identify the deliverable

2.1.1 Rationale

Using information captured by the software milestone guidelines, GPO Engineers and GENI community members should be able to complete these steps for a released software milestone. Following is a list of software milestone validation steps that may be verified when a feature is made available. This list may be modified to add or remove items as appropriate for the milestone.

- Access software with instructions provided, verify versions, tags, or URL.
- Verify version and naming information matches milestone.
- Verify OS and hardware requirements.
- Verify pre-requisites list is complete (i.e. DB, Libraries, development kits)
- Verify that package identifies components and provides instructions detailing installation procedure and any user privileges need to complete install. If there are multiple components, verify that the order of installation is defined and accurate.
- Verify suggested configuration.
- Verify installation is working as documented for both for admin and end-user profiles.

- Verify software Startup/Shutdown.

2.2 Resource Milestones Completion Guidelines

Resource milestones identify the availability of a resource and/or service to the GENI user community. This type of milestone may refer to software, hardware, or system resources being made available to users. The following should be captured for each resource milestone, as part of the milestone completion process:

- define service scope (what is the service?)
- software required for user access, if any (versions, tags)
- pre-requisite software and/or hardware required
- dependencies (other services?)
- service upgrade instructions, when applicable (ex. changes to existing clients, user data migration, etc)
- configuration instructions
- user access (login accounts, web portal, etc)
- runtime instructions (should include details beyond access to feature)

2.2.1 Rationale

Using information captured by the resource milestone guidelines, it should be possible to validate the resource availability to:

- Verify instructions are complete and allow resource access.
- Verify that instructions capture how to use the features within a service.
- Verify that version and naming information within the resource matches milestone.
- Verify OS, browser, hardware, or other requirements, if any.
- Verify suggested end-user configuration, if any.
- Verify resource features are accessible and usable as documented.

2.3 Integration Demonstration Milestone Completion Guidelines

Integration Demonstrations bring together multiple components or features from various projects. For this milestone type it is essential to capture each aspect of the successful demonstration. The following should be captured for each Integration milestone as part of the milestone completion process:

- Systems and hardware used (models, PROMs, OS versions, patches)
- Non-GENI software required (pre-requisite packages, OS version)
- required GENI software from other projects (repository, tags)
- software developed to perform demo (repository, tags)
- installation instructions (capture administrative requirements, component sequence, etc)
- configuration settings for all components
- administrative settings (i.e. user vs. admin, etc)
- runtime instructions

2.3.1 Rationale

Using information captured to execute the demonstration milestones, it should be possible to re-execute the functions in a demonstration, although some exceptions, e.g. on-site networking at GEC, apply. Information captures software, hardware and system configurations that allowed the demonstration to be carried out. Documentation should be available for the following:

- hardware used including models, PROMs, OS, path, etc.
- non-GENI software versions (pre-requisite packages, OS version)
- other GENI software packages required for demo.
- demo software component developed for the demo, (repository, tags)
- configurations for all software elements

2.4 Documentation Milestones Completion Guidelines

Documentation is a very significant part of the GENI Project; the following types of documentation milestones exist within GENI Project:

- Requirements
- Design
- Reports (test and evaluation)
- User Documentation
- Administration/OPS Documentation
- Policy
- Project Planning

Each of the Spiral 3 projects has documentation in these areas and generates them as part of the milestone completion process. The goal is for these documents to capture the effort required to get to the feature to work, its design, its usage, etc.

2.4.1 Rationale

GPO will check that these types of documents exist and that they capture the scope of the solution being delivered. End user documentation should give insight into the installation procedures, steps needed to utilize the features delivered and administrative requirements.