RFC-019: Documentation Pipeline

Status: Implemented **Date:** January 2026 **Author:** Derrell Piper ddp@eludom.net **Implementation:** generate-rfcs.sh

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Abstract

This RFC specifies the documentation pipeline for the Library of Cyberspace: automated generation of canonical document formats, index catalogs, and future syndication feeds.

Motivation

Documentation must be:

1. **Preserved** - Multiple formats for long-term archival
2. **Accessible** - Viewable in any environment
3. **Discoverable** - Indexed for navigation
4. **Syndicated** - Subscribable for updates (future)

The pipeline automates generation of all canonical formats from Markdown source.

Canonical Formats

Format	Extension	Purpose	Tool
Markdown	`.md`	Source, editing, version control	-
HTML	`.html`	Web viewing, rich rendering	pandoc -standalone
PDF	`.pdf`	Archival, printing, distribution	pandoc + xelatex

Format	Extension	Purpose	Tool
Plain Text	`.txt`	Universal compatibility, IETF tradition	`pandoc -to=plain`

All formats are first-class citizens. None is derived or secondary.

Pipeline Specification

Input

Markdown source files following the naming convention:

```
rfc-NNN-short-name.md
```

Where: - `NNN` - Zero-padded RFC number (000-999) - `short-name` - Lowercase, hyphenated descriptive name

Output

For each input file, generate:

```
rfc-NNN-short-name.html   # Standalone HTML
rfc-NNN-short-name.pdf    # PDF via XeLaTeX
rfc-NNN-short-name.txt    # Plain text, 78 columns
```

Plus a navigational index:

```
index.html                # Hypertext catalog
```

Generation Commands

```
# HTML (standalone, no external dependencies)
pandoc ${rfc}.md -o ${rfc}.html --standalone --metadata title=""

# PDF (XeLaTeX with monospace font for code)
pandoc ${rfc}.md -o ${rfc}.pdf --pdf-engine=xelatex -V mainfont="Menlo"

# Plain text (IETF-style, 78 columns)
pandoc ${rfc}.md -o ${rfc}.txt --to=plain --wrap=auto --columns=78
```

Index Generation

The index.html catalog provides:

- RFC number and title
- Links to all four formats
- Clean, accessible HTML

Structure:

```
<table>
  <tr>
    <td>RFC Number</td>
    <td>Title</td>
    <td>html | pdf | txt | md</td>
  </tr>
</table>
```

Publication

Local Workflow

```
# Generate all formats
./generate-rfcs.sh

# Commit to vault
seal-commit "Regenerate RFC documentation"
```

Remote Publication

```
# Publish to web server
rsync -avz --chmod=D755,F644 -e ssh \
  *.md *.html *.pdf *.txt index.html \
  user@server:~/path/to/docs/
```

Permission model: - Directories: 755 (world-readable, owner-writable) - Files: 644 (world-readable, owner-writable)

Future: Syndication

RSS/Atom Feeds

Future versions will generate:

```
rfc-feed.xml    # Atom feed of RFC updates
```

Feed entries will include: - RFC number and title - Publication/update date - Abstract - Links to all formats

Subscription Model

```
;; Subscribe to RFC feed
(seal-subscribe "https://example.com/cyberspace/rfc-feed.xml"
  verify-key: publisher-public)
```

Integration with Vault subscription system (RFC-006).

Implementation

generate-rfcs.sh

```
#!/bin/bash
# RFC Documentation Pipeline

RFCS=(rfc-000-manifesto rfc-001-replication-layer ...)

for rfc in "${RFCS[@]}"; do
  pandoc "${rfc}.md" -o "${rfc}.html" --standalone
  pandoc "${rfc}.md" -o "${rfc}.pdf" --pdf-engine=xelatex -V mainfont="Menlo"
  pandoc "${rfc}.md" -o "${rfc}.txt" --to=plain --columns=78
done

# Generate index.html
generate_index
```

Dependencies

Tool	Version	Purpose
pandoc	2.x+	Document conversion
xelatex	TeX Live	PDF generation
rsync	3.x+	Publication

Security Considerations

Integrity

Generated documents inherit integrity from: - Git version control (source) - Vault signatures (releases)

Publication

Remote publication uses: - SSH key authentication - No sensitive data in documents - World-readable permissions only

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References

1. Pandoc User's Guide
2. RFC-006 - Vault System Architecture
3. Atom Syndication Format - RFC 4287

Changelog

- **2026-01-06** - Initial specification

Implementation Status: Complete **Script:** generate-rfcs.sh **Formats:** Markdown, HTML, PDF, Plain Text