Shared Learning Infrastructure

Book Title

Draft 0.1

Created By: Wireless Generation, Inc.

Submitted: May 18, 2012

Revision History

The following table provides a change log of major revisions to this runbook.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Name | Change Summary |
| 4/17/2012 | 0.1 | Julie Ross | Add examples |
| 5/16/2012 | 0.2 | J. Ross | Update styles |

Table of Contents

Revision History i

Table of Contents ii

Preface 1

1. Operating System 2

1.1 Revision History 2

1.2 Executive Summary 2

1.3 Scope 2

1.4 References 2

1.5 Operating System Description 2

1.5.1 Business Overview 2

1.5.2 Technical Overview 2

1.6 Operating System Architecture 2

1.6.1 Software 2

1.6.2 Networking 2

1.7 Installation 2

1.7.1 Install the Whatsis 3

1.8 Troubleshooting 3

1.9 Patch Management 3

1.10 Monitoring 3

1.11 Security 4

1.12 Disaster Recovery 4

2. Platform 5

2.1 Revision History 5

2.2 Executive Summary 5

2.3 Scope 5

2.4 References 5

2.5 Data Stores 5

2.5.1 MongoDB 5

2.5.1.1 Application Description 5

2.5.1.2 Application Architecture 5

2.5.1.3 Installation 6

2.5.1.4 Troubleshooting 6

2.5.1.5 Patch Management 6

2.5.1.6 Monitoring 6

2.5.1.7 Security 6

2.5.1.8 Disaster Recovery 6

2.5.2 MySQL 6

2.5.2.1 Application Description 6

2.5.2.2 Application Architecture 6

2.5.2.3 Installation 7

2.5.2.4 Troubleshooting 7

2.5.2.5 Patch Management 7

2.5.2.6 Monitoring 7

2.5.2.7 Security 7

2.5.2.8 Disaster Recovery 7

2.5.3 OpenAM 7

2.5.3.1 Application Description 7

2.5.3.2 Application Architecture 8

2.5.3.3 Installation 8

2.5.3.4 Troubleshooting 8

2.5.3.5 Patch Management 8

2.5.3.6 Monitoring 8

2.5.3.7 Security 8

2.5.3.8 Disaster Recovery 8

2.6 Application Servers 8

2.6.1 Tomcat 8

2.6.1.1 Application Description 8

2.6.1.2 Application Architecture 9

2.6.1.3 Installation 9

2.6.1.4 Troubleshooting 9

2.6.1.5 Patch Management 9

2.6.1.6 Monitoring 9

2.6.1.7 Security 9

2.6.1.8 Disaster Recovery 9

2.6.2 Rails 9

2.6.2.1 Application Description 10

2.6.2.2 Application Architecture 10

2.6.2.3 Installation 10

2.6.2.4 Troubleshooting 10

2.6.2.5 Patch Management 10

2.6.2.6 Monitoring 10

2.6.2.7 Security 10

2.6.2.8 Disaster Recovery 10

3. SLI Services 11

3.1 Revision History 11

3.2 Executive Summary 11

3.3 Scope 11

3.4 References 11

3.5 SLI Application Programmer Interface (API) 11

3.5.1 Application Description 11

3.5.1.1 Business Overview 11

3.5.1.2 Technical Overview 11

3.5.2 Application Architecture 11

3.5.2.2 Installation 12

3.5.2.3 Troubleshooting 12

3.5.2.4 Patch Management 12

3.5.2.5 Monitoring 12

3.5.2.6 Security 12

3.5.2.7 Disaster Recovery 12

3.6 SLI Ingestion 12

3.6.1 Application Description 12

3.6.1.1 Business Overview 12

3.6.1.2 Technical Overview 12

3.6.2 Application Architecture 12

3.6.2.2 Installation 13

3.6.2.3 Troubleshooting 13

3.6.2.4 Patch Management 13

3.6.2.5 Monitoring 13

3.6.2.6 Security 13

3.6.2.7 Disaster Recovery 13

4. SLI Applications 14

4.1 Revision History 14

4.2 Executive Summary 14

4.3 Scope 14

4.4 References 14

4.5 SLI Administration Tool 14

4.5.1 Application Description 14

4.5.1.1 Business Overview 14

4.5.1.2 Technical Overview 14

4.5.2 Application Architecture 14

4.5.2.2 Installation 15

4.5.2.3 Troubleshooting 15

4.5.2.4 Patch Management 15

4.5.2.5 Monitoring 15

4.5.2.6 Security 15

4.5.2.7 Disaster Recovery 15

4.6 SLI Dashboard 15

4.6.1 Application Description 15

4.6.1.1 Business Overview 15

4.6.1.2 Technical Overview 15

4.6.2 Application Architecture 15

4.6.2.2 Installation 16

4.6.2.3 Troubleshooting 16

4.6.2.4 Patch Management 16

4.6.2.5 Monitoring 16

4.6.2.6 Security 16

4.6.2.7 Disaster Recovery 16

4.7 SLI Portal 16

4.7.1 Application Description 16

4.7.1.1 Business Overview 16

4.7.1.2 Technical Overview 16

4.7.2 Application Architecture 16

4.7.2.2 Installation 17

4.7.2.3 Troubleshooting 17

4.7.2.4 Patch Management 17

4.7.2.5 Monitoring 17

4.7.2.6 Security 17

4.7.2.7 Disaster Recovery 17

4.8 SLI Data Browser 17

4.8.1 Application Description 17

4.8.1.1 Business Overview 17

4.8.1.2 Technical Overview 17

4.8.2 Application Architecture 18

4.8.2.2 Installation 18

4.8.2.3 Troubleshooting 18

4.8.2.4 Patch Management 18

4.8.2.5 Monitoring 18

4.8.2.6 Security 18

4.8.2.7 Disaster Recovery 18

Preface

This is the runbook for the SLI system. This book guides you through all processes and tasks for installing, configuring, running, upgrading, monitoring, and troubleshooting the SLI system. In addition, this book provides just enough conceptual, reference, and context information to explain what you are doing and why you need to do it.

Scope of This Book

This book covers the following categories:

* Operating system. <<<FIX ME: brief description>>
* Platform. <<<FIX ME: brief description>>
* SLI Services. <<<FIX ME: brief description>>
* SLI Applications. <<<FIX ME: brief description>>

Audience

This guide is intended for system engineers, system operators, and system administrators, each of whom are responsible for specific tasks in the process.

Typographic Conventions

The following table describes the typographic conventions that this document uses to enhance semantic meaning.

|  |  |
| --- | --- |
| Format | Used for |
| **Bold** | Resource names, parameter names, headings.  **Example:** This student is represented by a students resource. |
| *Italics* | New words, emphasized words, document titles, variable text.  **Example:** See the SLI REST API Reference. |
| Monospace | Code examples, field names.  **Example:** $BASE\_URL$/api/rest/v1/students |

# Operating System

Concept.

## Revision History

The following table provides a change log of major revisions to this chapter.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Name | Change Summary |
|  |  |  |  |

## Executive Summary

Concept.

## Scope

Concept.

## References

Reference. A list of related documents and other information.

## Operating System Description

Concept.

### Business Overview

Concept.

### Technical Overview

Concept.

## Operating System Architecture

Concept. Figure needed.

### Software

Reference.

### Networking

Reference.

## Installation

Task(s). Suggested guidelines for writing tasks:

* Each task is a subheading whose title is phrased in the imperative, for example, “Install the OS” or “Apply a Patch”.
* Provide one or more sentences that provide the context of the task, for example, why the user wants to perform the task, such as to achieve a certain goal.
* Voice: talk directly to the user. That is, say things like “You can blah blah blah…”
* You can include these topic headings as needed:
* (Optional) Before You Begin
* Procedure

1. ☐ Each step is numbered
2. ☐ Dark Knights would like a checkbox at the start of each step so the user can check off what they’ve done, as shown here
3. ☐ (Optional) Include “(Optional)” as shown to indicate that the step is optional

* (Optional) Next Steps.

### Install the Whatsis

You can use this as an example of formatting a task.

Before You Begin

Ensure that you have set up the example.cfg file …

Procedure

☐ Step one.

☐ Step two.

☐ (Optional) To do whatever, you can do this.

Next Steps

* To do this, see (link to something).
* To do that, see (link to something).

## Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information you need to capture before calling Support.

## Patch Management

Task(s). See 1.7.1 for an example.

## Monitoring

Reference. Includes recommendations for what and how to monitor, decision trees, best practices, and so forth.

## Security

Task(s). See 1.7.1 for an example.

## Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

# Platform

Concept.

## Revision History

The following table provides a change log of major revisions to this chapter.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Name | Change Summary |
|  |  |  |  |

## Executive Summary

Concept.

## Scope

Concept.

## References

Reference. A list of related documents and other information.

## Data Stores

Concept.

### MongoDB

Concept.

#### Application Description

Concept.

##### Business Overview

Concept.

##### Technical Overview

Concept.

#### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s).

#### Troubleshooting

Reference.

#### Patch Management

Task(s).

#### Monitoring

Reference.

#### Security

Task(s).

#### Disaster Recovery

Reference.

### MySQL

Concept.

#### Application Description

Concept.

##### Business Overview

Concept.

##### Technical Overview

Concept.

#### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

### OpenAM

Concept.

#### Application Description

Concept.

##### Business Overview

Concept.

##### Technical Overview

Concept.

#### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

## Application Servers

Concept.

### Tomcat

Concept.

#### Application Description

Concept.

##### Business Overview

Concept.

##### Technical Overview

Concept.

#### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

### Rails

Concept.

#### Application Description

Concept.

##### Business Overview

Concept.

##### Technical Overview

Concept.

#### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

# SLI Services

Concept.

## Revision History

The following table provides a change log of major revisions to this chapter.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Name | Change Summary |
|  |  |  |  |

## Executive Summary

Concept.

## Scope

Concept.

## References

Reference. A list of related documents and other information.

## SLI Application Programmer Interface (API)

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

## SLI Ingestion

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

# SLI Applications

Concept.

## Revision History

The following table provides a change log of major revisions to this chapter.

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Name | Change Summary |
|  |  |  |  |

## Executive Summary

Concept.

## Scope

Concept.

## References

Reference. A list of related documents and other information.

## SLI Administration Tool

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

## SLI Dashboard

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

## SLI Portal

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.

## SLI Data Browser

Concept.

### Application Description

Concept.

#### Business Overview

Concept.

#### Technical Overview

Concept.

### Application Architecture

Concept. Figure needed.

##### Hardware

Reference.

##### Software

Reference.

##### Networking

Reference.

#### Installation

Task(s). See 1.7.1 for an example.

#### Troubleshooting

Reference. Includes recommendations, decision trees, best practices, and so forth. Also includes a list of information that you need to capture before calling Support.

#### Patch Management

Task(s). See 1.7.1. for an example.

#### Monitoring

Reference. Includes recommendations, decision trees, best practices, and so forth.

#### Security

Task(s). See 1.7.1. for an example.

#### Disaster Recovery

Reference. Includes recommendations, decision trees, best practices, and so forth.