Best Practice

Core Retailer Web-Based Applications

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Best Practice

Core Retailer Web-Based Applications

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Comments relating to the material contained in this document may be submitted to:

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Preface

North American Association of State and Provincial Lotteries (NASPL)

NASPL has approved the creation of a standards initiative, which is dedicated to the adoption or creation of Technical Standards, Best Practices, and Certification Programs that will further the lottery objectives of integrity, security, interoperability, and profitability.

The NASPL Standards Initiative (NSI) was approved and funded by NASPL and the vendor community as a collaborative development effort with participation from the lotteries, gaming vendor, and retail associations. Project management and facilitation services for standards development and certification are provided by The Open Group in conjunction with NASPL.

The NSI Vision is to provide an interoperable lottery environment that is based on a set of open Technical Standards, approved Best Practices, and Certification Programs that, when implemented, will improve the quality and integrity of the lottery environment, and will provide increased efficiencies, resulting in reduced costs and increased profit margins for lotteries, vendors, and lottery retailers.

The NSI mission is to establish a resilient organizational structure, set of processes, and procedures that will engage all constituents (lotteries, vendors, and retail representatives) in an environment of open discussion and cooperative development.

The Open Group

The Open Group is a vendor-neutral and technology-neutral consortium, whose vision of Boundaryless Information Flow will enable access to integrated information within and between enterprises based on open standards and global interoperability. The Open Group works with customers, suppliers, consortia, and other standards bodies. Its role is to capture, understand, and address current and emerging requirements, establish policies, and share best practices; to facilitate interoperability, develop consensus, and evolve and integrate specifications and Open Source technologies; to offer a comprehensive set of services to enhance the operational efficiency of consortia; and to operate the industry's premier certification service, including UNIX certification. Further information on The Open Group is available at www.opengroup.org.

The Open Group publishes a wide range of technical documentation, the main part of which is focused on development of Technical and Product Standards, Best Practices, and Guides. Full details and a catalog are available at www.opengroup.org/bookstore.

Readers should note that updates – in the form of Corrigenda – may apply to any publication. For NASPL published documents, this information is available at www.opengroup.org/naspl/published.
This Document

This document is the Best Practice for Core Retailer Web-Based Applications. It has been developed and approved by NASPL in association with The Open Group.

This Best Practice is intended to provide the foundation for lotteries and lottery vendors to apply web-based technologies in the lottery/retailer communication channel.

The structure of this Best Practice is as follows:

- **Chapter 1: Introduction**
  This section introduces the concept of NASPL Best Practices and describes the purpose and scope of this Best Practice. It also defines the terminology used.

- **Chapter 2: Business Context**
  This section describes the typical business environment, the business drivers, and the objectives driving this NASPL Best Practice as context.

- **Chapter 3: Best Practice Overview**
  This section provides an overview of the Best Practice.

- **Chapter 4: Best Practice Requirements**
  This is the critical section. It describes the Best Practice including detailed descriptions of the components that make up the Best Practice. The requirements contained in this section define how to conform with the Best Practice.

- **Chapter 5: Methods, Techniques, and Additional Considerations**
  This section describes the methods and techniques that support this Best Practice.

- **Chapter 6: Tools to Support the Best Practice**
  This section describes the tools that support execution of this Best Practice.

- **Chapter 7: Conformance Overview**
  This section looks at how a certification policy and program will be developed for this Best Practice.

- **Appendix A: Requirements Checklist**
  This appendix provides a consolidated list of prescriptive requirements.

- **Appendix B: Documentation Checklist**
  This appendix summarizes the various documentation responsibilities of each party.
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- Richard Harris, Louisiana Lottery
- Simone Harrison, Scientific Games International
- Shawn Hawley, Scientific Games International
- Kathleen Hayden, Ontario Lottery
- Greg Henry, Indiana Lottery
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<td>Luc Rochette</td>
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<tr>
<td>Joseph Santurri</td>
<td>Rhode Island Lottery</td>
</tr>
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Referenced Documents

The following documents are referenced in this Best Practice:

- Americans with Disabilities Act (ADA) requirements outlined in Section 508 of the Rehabilitation Act, US Department of Justice (www.usdoj.gov/crt/ada/adahom1.htm).

- Extensible Markup Language (XML) 1.0 (Third Edition), World Wide Web Consortium (W3C) (www.w3.org/TR/REC-xml).


- LDAP Version 3

  LDAP Version 3 is defined by a series of Request for Comments documents as follows:

- Jabber Protocol

  The Internet Engineering Task Force (IETF) has formalized the core XML streaming protocols as an approved instant messaging and presence technology under the name of XMPP. The XMPP specifications have been published as follows:


• NSI Technical Standard, XML Retail Accounting Reports in the Lottery Industry, TS0402, June 2005.

• XHTML 1.0: Extensible HyperText Markup Language (Second Edition), World Wide Web Consortium (W3C) (www.w3.org/TR/xhtml1).

• XML-RPC 1.0 (www.xmlrpc.com/spec).
1 Introduction

A Best Practice provides a clear description of a set of processes, procedures, and guidelines, that when practically applied to an operation brings a business advantage. A Best Practice has a record of success in providing significant advantage in cost, schedule, quality, integrity, performance, safety, environment, or other measurable factors that impact an organization. Various organizations identify and publicize Best Practices so that others – particularly internal business units, external business partners, or otherwise affiliated external organizations – can benefit from implementing the Best Practice and improving the operation of their business.

Best Practices can be applied to particular subject areas (such as new technologies or management theories), product sectors (such as software and hardware development), and vertical markets (such as the lottery industry). Best Practices are used frequently in the fields of healthcare, government administration, education, project management, hardware and software product development, and elsewhere. A commitment to using the Best Practice in any field is a commitment to using a prescribed method to ensure success.

A NASPL Best Practice is a Best Practice that applies to the lottery industry, has been approved by the NASPL Standards Initiative (NSI), and which serves as a recommendation for adoption by the lottery industry. A NASPL Best Practice is a practice that when implemented is intended to improve the quality and integrity of the lottery environment, and to provide increased efficiencies, resulting in reduced costs and increased profit margins for lotteries, vendors, and lottery retailers.

A NASPL Best Practice is described in terms of its:

- Purpose
- Components
- Constituents and their roles
- Prescriptive requirements
- Methods and techniques
- Tools
- Relationship to other Best Practices

The development of a NASPL Best Practice involves the following stages:

1. The NSI, through the Best Practices Working Group, selects a candidate practice using specific assessment and acceptance criteria (as defined by the NASPL Steering Committee).
3. Optionally, the Best Practice document is subject to an informal review process by NASPL members and the NSI participants.

4. The Best Practice document is subject to a formal review process by the NSI Steering Committee and the Best Practice Review Board.

5. A set of conformance criteria and a conformance policy for the Best Practice are defined. Currently, this document is at Stage 5.

The approved NASPL Best Practice describes the practice in enough detail to enable it to be readily deployed by other organizations, assuming the availability of the necessary resources.

This section describes this NASPL Best Practice in terms of its purpose and its scope, and gives a definition of the terminology used throughout this document.

1.1 Purpose

The Core Retailer Web-Based Applications Best Practice is designed to establish the minimum foundation for web-based applications that lotteries should provide for their retailers. The Best Practice establishes the minimum technical requirements and the base information that retailers require to operate the lottery portion of their business effectively.

The Best Practice also provides some direction for future improvements for web-based applications by suggesting approaches that will keep the offered web applications aligned with the broader web-based community best practices. Finally, this Best Practice establishes a clear, future-focused basis for vendor-supplied solutions that lotteries can then purchase.

It is anticipated that in the future NSI will further this work and consider best practice approaches to websites that include enhancements available within the broader web community. These enhancements could include real time or near real time connectivity to business systems as well as interactive processes.

1.2 Scope

The Core Retailer Web-Based Applications Best Practice is focused on the application of web-based technologies for the facilitation of communications between lotteries and retailers in the following areas:

- Minimum Technical Standards or approach
- Invoicing information
- Financial information for day-to-day operations
- Instant Ticket inventory information

The scope of this document is limited to the business practices involved in the above areas and the minimum supporting technology required to implement those practices.
1.3 **Terminology**

This section provides a set of terms and their definitions, which should be used when describing and interpreting the Best Practice requirements specified in this document.

**Must** Indicates an absolute, mandatory requirement of the Best Practice that has to be implemented in order to conform to the Best Practice.

**Should** Indicates a recommendation that ordinarily must be implemented. To conform to the Best Practice, an acceptable justification must be presented if the requirement is not satisfied.

**May** Indicates an optional requirement to be implemented at the discretion of the practitioner, and which has no impact on conformance to the Best Practice.

**Must not** Indicates an absolute preclusion of the Best Practice, and if implemented would represent a non-conformity with the Best Practice.

**Should not** Indicates a practice explicitly recommended not to be implemented. To conform to the Best Practice, an acceptable justification must be presented if the requirement is implemented.
2 Business Context

This section describes the typical business environment, the business drivers, and the objectives driving this NASPL Best Practice as context.

2.1 Business Environment Summary

2.1.1 Business Scenario – General Description

This section describes the stakeholders in a typical lottery operation. The roles played by the constituents are not necessarily the same for every lottery. The constituents may take on different roles during the execution of business processes based upon local practice, how the lottery is organized, the budget allocated to the lottery organization, or any number of other factors. These roles may actually change over time.

The key organizations and entities in the typical lottery business environment are illustrated in the following figure.

![Figure 1: The Lottery Business Environment](image-url)

Not all organizations will have all of these components and relationships. However, the figure illustrates a number of points typical of lottery enterprises, each of which has particular implications for the benefits of standards for the lottery industry.
The following list of constituents and the roles they play in the larger lottery environment is provided here to give a big picture view. The constituents involved in this Best Practice and the roles they play are a subset of those in the larger lottery environment and are identified in more detail in subsequent sections.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Role Played</th>
</tr>
</thead>
</table>
| State Executive or Legislature                   | • Authorize lottery operation under state/provincial laws.  
• Direct use of lottery revenues (and by implication, lottery operating budgets).  
• Monitor and audit lottery operations, sometimes impacting lottery development.  
• May appoint lottery director. |
| Board of Directors/Lottery Commissioners          | • Oversee lottery organization and their policies and procedures.  
• Hire lottery executives.  
• Approve major lottery contracts. |
| Lottery Organizations                             | • Conduct overall operation of the lottery.  
• May operate lottery IT infrastructure.  
• May develop games.  
• Oversee lottery integrity and security, including validation of winners.  
• Optimize profitability from games (current and future), selecting new games, stopping old games, developing new games, and managing the selection and implementation of game infrastructure through Requests For Proposals (RFP).  
• Manage retailers; including accounting, and game material inventory; e.g., instant game books.  
• Manage vendors, including possible outsourcing of lottery operations.  
• Develop marketing campaign.  
• Manage large prize payouts individually or in conjunction with multi-state organizations. |
| Retailers/Agents                                  | • Sell lottery tickets and games at retail location.  
• Market lottery products.  
• Validate and redeem tickets.  
• Manage and account to lottery for sales including ticket “books”, report sales to lottery commission, redemption of unsold game books.  
• Manage accounting of lottery contribution to store profit and loss.  
• Optimize contribution of lottery sales (within lottery regulations) to store. |
| Financial Institutions (e.g., banks)              | • Provide “sweep accounts” to facilitate transfers of funds from online and instant ticket purchase between the retailer/agent and the lottery.  
• May provide interface between state treasury and lottery. |
| Players                                          | • Play online and instant games, self-validate tickets (in some jurisdictions), redeem tickets, and receive winnings. |
| Lottery System Vendors                            | • Provide lottery systems, components, games, and/or products.  
• May provide the networking component (possibly customized) of a lottery system.  
• Operate lottery IT systems (under subcontract from lottery organization) in many jurisdictions.  
• Provide maintenance, field, and technical service in some jurisdictions.  
• Respond to Requests For Information (RFI), Requests For Proposals (RFP), and Requests For Software Changes (RFS). |
**Constituent** | **Role Played**
---|---
Telecommunications Providers | Provide the networking component (possibly customized) of a lottery system.
Lobbyists | Impact lottery responsibilities and limitations (through legislature) within a jurisdiction.

### 2.1.2 Operational Scenario

This section depicts a typical operational scenario, highlights the major processes, and illustrates the associated need for the Best Practice. It also identifies the constituents who will be carrying out the Best Practice.

Accurate and timely accounting information is arguably the most important exchange of data between lotteries and their retailers.

Historically, the sales terminal has been the main mechanism used to provide retailers with accounting information on lottery activity. While the sales terminal has provided the secure channel needed to get this information to the retailer, it requires that reports be run at the retailer location and limits the report size to that of the ticket paper in the terminal. Additionally, this method of running paper reports can be labor-intensive for the retailer, often requiring the re-keying of this information into the retailer’s back-office system.

Over time, some improvements have been made. Many lotteries now offer a wide variety of electronic data formats to their retailers to aid in performing lottery business. Most often this is limited to electronic versions of the invoice. Additionally, NSI has worked with PCATS and other retailers to establish the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry. This document creates a common electronic format for retail accounting data and provides guidance to lotteries on what data should be placed within the defined format. It does not address how this information should be provided. This Best Practice is focused on creating the minimum basis for providing accounting data to retailers via web-based technologies.

Web-based technologies are ideal for providing accounting information that is structured via XML. By leveraging the work in XML and endorsing a minimum set of Technical Standards and current best practice directions in the broader web community, NSI can produce a lottery industry best practice that will meet the goal of providing electronic accounting data in a secure and timely manner.

The operational environment for this Best Practice is:

- **Dynamic** – Lotteries continually upgrade existing games and institute new games so that their business can evolve and grow. High availability with optimum performance and quality software and hardware are essential in the lottery business so that downtime during upgrades, deployment of new games, and ongoing operations is minimal.

- **Diverse** – Since there is no enforcement of a common method among lotteries, every jurisdiction’s operation executes slightly differently and according to its own method of choice and interpretation, as well as statutory or administrative rules. However, there should be an effort to provide commonality between states where possible.
• **Local and culturally-specific** – Geographical differences mean that jurisdictions vary, manifesting in diverse needs. This represents diversity in participants and method, including cultural differences.

It is imperative that the Best Practice supports this business environment.

### 2.1.2.1 Operational Functions and Processes

The key functions and processes that require best practice support are further identified in the table below. The specific needs within each business function or process requiring best practice support are also described.

<table>
<thead>
<tr>
<th>Function/Process Name</th>
<th>Best Practice Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Need to have a common approach for retailers to access key accounting information independent of the lottery system. This should not be tied to the retail location.</td>
</tr>
<tr>
<td>Security</td>
<td>Need to provide adequate security to ensure retailer data remains protected from unauthorized access.</td>
</tr>
<tr>
<td>Expanded formats</td>
<td>Data should be available electronically with the option to format for printing.</td>
</tr>
<tr>
<td>Consistency</td>
<td>Retailers that operate in multiple jurisdictions should be able to obtain accounting data in a consistent manner.</td>
</tr>
</tbody>
</table>

### 2.1.2.2 Operational Topology

The topology of the environment to which this Best Practice applies typically represents distributed and separate locations with variable overlap – and sometimes complete overlap – between some of these entities:

- Lottery Organization
- Retailer Site
- Retailer Management Office
- Gaming System Vendor
- Web-based Technology Vendor

### 2.1.2.3 Operational Location Information

The following matrix shows the *primary* locations where each of the functions or processes related to this Best Practice is executed, though all identified locations may not be involved in every situation. In cases where different parts of a function or process involve different locations, the component parts of the function or process are identified. This demonstrates the need for integration of different requirements when creating and adopting this Best Practice.
### Functions/Processes

<table>
<thead>
<tr>
<th>Locations</th>
<th>Lottery Organization</th>
<th>Retailer Site</th>
<th>Retailer Management Office</th>
<th>Gaming System Vendor</th>
<th>Web-based Technology Vendor</th>
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<tr>
<td>Access</td>
<td>X</td>
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</tr>
</tbody>
</table>

### 2.2 Business Rationale

This section describes the business drivers, objectives, and benefits of implementing this Best Practice.

#### 2.2.1 Business Drivers

The major business drivers for implementing the Best Practice are:

- To provide retailers with key financial data in a secure and easily accessed electronic format
- To establish a consistent minimum basis for web-based applications that support retailers in lottery operations
- To create a framework for lotteries to gauge current web-based applications or for establishing new web-based applications for retailers
- To set a future goal for enhancements consistent with the direction of the broader web-based industry
- To establish a clear interface point for gaming systems and retailer web-based applications
- To provide guidance for vendors of web-based solutions to create offerings geared to lotteries

#### 2.2.2 Objectives and Benefits

This section outlines some of the business objectives for introducing the Best Practice and some of the benefits that could be attained once the Best Practice has been adopted.

- To provide retailers with key financial data in a secure and easily accessed electronic format

  Relying on this Best Practice, retailers could access their financial data on lottery operations from their management office without tying up the sales terminal. Retailers
could also create the electronic interface with their back-office system to automate accounting for lottery business.

- **To establish a consistent minimum basis for web-based applications that support retailers in lottery operations**
  
  Retailers that operate in multiple jurisdictions could rely on this Best Practice to get consistent accounting data from lotteries that may need to meet diverse jurisdictional requirements. Home offices could gain direct access to financial information without the need to transport paper reports from individual retail locations that may be geographically diverse.

- **To create a framework for lotteries to gauge current web-based applications or for establishing new web-based applications for retailers**
  
  Lotteries with existing web-based offerings can ensure that their systems meet an established benchmark. Lotteries planning new systems could leverage the Best Practice to establish RFP requirements without the need for web-specific expertise.

- **To set a future goal for enhancements consistent with the direction of the broader web-based industry**
  
  By establishing a minimum base and identifying the future direction of the broader web-based industry, this Best Practice allows lotteries to remain consistent with current and future directions of the industry. This could allow an investment in technology to have a longer life.

- **To establish a clear interface point for gaming systems and retailer web-based applications**
  
  Leveraging the current NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry, as an interface point for web-based applications provides a clear means for gaming system vendors to provide inputs to web-based applications without the need to establish costly connections that may risk the gaming system.

- **To provide guidance for vendors of web-based solutions to create offerings geared to lotteries**
  
  Vendors that produce web-based applications for general business purposes could utilize this Best Practice to create re-usable components for the lottery industry. Re-use could reduce costs and increase speed of deployment. Existing lottery vendors can leverage their knowledge of the industry and this Best Practice to create web-based applications that meet the minimum basis as part of their existing product line.
3 Best Practice Overview

3.1 Overview

The Core Retailer Web-Based Applications Best Practice effort is designed to address two basic areas:

1. First, the Best Practice is designed to establish a foundation for web-based applications that support the lottery/retailer relationship.
2. Second, the Best Practice provides requirements and guidelines for implementation of core financial information exchange via web-based applications.

Specifically, the Best Practice outlines the minimum requirements for lotteries to establish retailer-focused websites with the appropriate level of technology. Additionally, the Best Practice provides a framework for implementation of the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry, to provide the fundamental financial information retailers need to operate lottery business.

3.2 Constituents and Roles

The Core Retailer Web-Based Applications Best Practice is primarily focused on providing the basis for lotteries to build or acquire web-based applications for retailers. This constitutes four basic roles as follows:

- **Lottery**
  Lotteries will have the ultimate responsibility to ensure that the core web-based applications they provide for their retailers meet the requirements of this Best Practice.

- **Retailer**
  Retailers are consumers or users of the product of this Best Practice.

- **Gaming System Vendor**
  Gaming system vendors provide the base data needed for the retailer-focused web-based applications detailed in this Best Practice.

- **Web-based Technology Vendor**
  Web-based technology vendors will utilize this Best Practice to develop and deliver systems that can meet the requirements of this Best Practice. This group can also include gaming system vendors that choose to offer web-based applications to support retailer/lottery communications.
3.3 Relationship with Other NSI Documents

The Core Retailer Web-Based Applications Best Practice relies on the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry for structure to the financial information that will be provided to retailers by lotteries.
4 Best Practice Requirements

This section defines the best practice requirements for Core Retailer Web-Based Applications, which must be adhered to as part of conformance to the Best Practice. This section is divided into the best practice components – the best practice requirements for each component are contained within the component subsections. It is important to note that all of the prescriptive terms found in this section must be interpreted according to the definitions in Section 1.3 (Terminology).

The Core Retailer Web-Based Applications Best Practice comprises two components:

- Foundation for retailer web-based applications
- Retailer-related financial information provided by web-based applications

4.1 Foundation for Retailer Web-Based Applications

The foundation for the Core Retailer Web-Based Applications Best Practice is the website. The website is a basic component of web-based applications and is a widely accepted way to provide information to users. The intent of this Best Practice is to establish a technically sound and secure approach to providing a retailer-focused website. The Best Practice also provides guidelines for the use of related web-based technologies such as Email, File Transfer Protocol (FTP), and Chat.

4.1.1 Best Practice Requirements

4.1.1.1 Website

The Lottery must:

- Provide a retailer-focused website

The Lottery should:

- Utilize XML 1.0 Third Edition as the primary exchange standard for dynamic data within the retailer-focused website
- Utilize XSL Version 1.0 as the primary presentation format for XML-based data utilized in the retailer-focused website
- Utilize XHTML 1.0 to provide structure and Cascading Style Sheets (CSS) to provide layout for web pages that are not based on defined XML data sets
- Make available all XML schemas used for the transmission of data as documentation that is part of the retailer-focused website
The Web-based Technology Vendor must:

- Provide lotteries with a retailer-focused website that utilizes XML 1.0 Third Edition as the primary exchange standard for dynamic data within the retailer-focused website
- Utilize XSL Version 1.0 as the primary presentation format for XML-based data utilized in the retailer-focused website
- Utilize XHTML 1.0 to provide structure and Cascading Style Sheets (CSS) to provide layout for web pages in the retailer-focused website that are not based on defined XML data sets
- Document all XML schemas used for the transmission of data as part of the provided solution, making them available as part of the website

4.1.1.2 Website Security

The Lottery must:

- Employ encryption for sessions with a minimum standard of SSL and 128-bit encryption or equivalent technology
- Employ an authentication level that requires users to uniquely authenticate
- Grant access to information on web-based applications via an assigned role only
- Clearly document the roles utilized and define the access granted to each role
- Use an authentication method that requires users to demonstrate knowledge of at least two things, one of which must be known only to the user

As an example, utilizing an assigned unique user ID and a password established by the user would meet this requirement. This requirement would not be met if the website requires user IDs and passwords to be shared among Retailer employees.

The Lottery should:

- Provide the means for designated retailer administrators to create, manage, and remove users that can access only the retailer’s information via the website
- Utilize directory-based technology conforming to LDAP Version 3 for user information and role assignments

The Web-based Technology Vendor must:

- Employ encryption for sessions with a minimum standard of SSL and 128-bit encryption or equivalent technology
- Provide the means for individual users to be set up to utilize the website and ensure they uniquely authenticate
- Provide the means for designated retailer administrators to create, manage, and remove users that can access only the retailer’s information via the website
• Provide the means for roles to be established and documentation of each role to be required as part of the creation of the role

The Retailer should:
• Ensure that all appropriate users are assigned unique identification for accessing the website

4.1.1.3 Alternate Website Formats

The Lottery should:
• Provide the means for programmatic host-to-host transfer of information between retailers and the lottery by applying XML-RPC 1.0
• Provide alternative website access compliant with the Americans with Disabilities Act (ADA) requirements outlined in Section 508 of the Rehabilitation Act
• Provide the means to convert XML data to non-XML formats; at a minimum, conversion to CSV text-based files must be supported

The Lottery should not:
• Distribute confidential retailer information using email

The Lottery may:
• Utilize email to provide automated reminders tied to key events
• Utilize SSH File Transfer Protocol (SFTP) as a means to distribute XML files via FTP technology
• Provide chat-based applications; if so, the application should be consistent with the Jabber protocol
• Distribute data in non-XML formats, such as spreadsheet files, text-based files, or Adobe PDF files; if so, the Lottery should utilize an approach that converts the XML files accurately into the alternate format

The Web-based Technology Vendor must:
• Support programmatic host-to-host transfers of information that utilize XML-RPC 1.0
• Provide the means to convert XML data to non-XML formats; at a minimum, conversion to CSV text-based files must be supported

4.1.1.4 Website Help and Support Features

The Lottery must:
• Provide a site-specific search capability that allows users to utilize search strings to navigate the website
The Lottery should:

- Provide and maintain a Frequently Asked Questions (FAQ) web page that provides answers to common questions on both use of the website and common retailer/lottery-focused work.

The Web-based Technology Vendor must:

- Provide the capability to support an FAQ web page.

The Web-based Technology Vendor should:

- Provide a site-specific search capability that will allow users to navigate the website.

### 4.1.1.5 Alternative Language Support

The Lottery should:

- Provide the same level of alternative language support for retailer web-based applications as they provide for their gaming system terminals.

### 4.2 Retailer-Related Financial Information Provided by Web-Based Applications

To be effective, retailers need access to accurate financial information. The NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry provides the definition and requirements for the breakdown and format of this financial data. This Best Practice establishes the frequency and retention requirements for the availability of this data on the retailer-focused website. This Best Practice does not attempt to define archival periods for retail accounting reports; only the period that the information should be available in real time via the website.

#### 4.2.1 Best Practice Requirements

The Lottery must:

- Ensure that its financial data complies with the latest published version of the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry.
- Ensure that its financial data is available as an XML file accessible from the retailer-focused website.
- Ensure that its invoice data is available on the retailer-focused website on the business day that follows the close of the lottery invoice cycle.
- Ensure that summarized financial data for each business day is available on the retailer-focused website on the next business day.
- Ensure that a point-in-time total for instant ticket inventory levels established at the close of each business day is available on the retailer-focused website the next business day.
• Keep point-in-time instant ticket inventory levels for a given business day available on the retailer-focused website for 13 weeks

The Lottery should:
• Ensure that invoices are available on the retailer-focused website for 16 months
• Keep summarized business day financial data available on the retailer-focused website for 13 weeks
• Make available tax reporting information on the retailer-focused website
• Keep tax reporting information available on the website for three (3) years

The Web-based Technology Vendor must:
• Comply with the latest published version of the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry
• Provide the capability to accept data compliant with the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry and to process that data to make the retailer’s information available to only the specific retailer to which the data pertains and that retailer’s authorized representatives
• Provide the capability to retain invoices for at least 16 months on the website
• Provide the capability to retain summarized financial data for at least 13 weeks on the website
• Provide the capability to retain tax reporting information for at least three (3) years on the website
• Provide the capability to retain point-in-time instant ticket inventory levels for a given business day for at least 13 weeks on the website

The Gaming System Vendor must:
• Provide the capability to generate data compliant with the NASPL Technical Standard, XML Retail Accounting Reports in the Lottery Industry from the gaming system consistent with the lottery invoice cycle and the lottery business day

The Retailer should:
• Utilize the website to obtain their invoicing data and reconcile this with their recorded activity
• Obtain their summarized financial data for the previous business day and reconcile their lottery activity with the reported data
• Obtain the instant ticket data for the previous business day from the website and compare this data to actual counts
This section describes in detail the methods and techniques that support the Best Practice. These methods and techniques are provided as guidance for adoption of the Best Practice. The use of any of the specific methods, techniques, or additional considerations described within this section is not required for a business practice to be considered conformant with this NSI Best Practice, unless such use is specified in the requirements in Chapter 4.

5.1 Design Considerations

The Best Practice has purposely avoided direct technology recommendations where multiple solutions could meet the business requirements established by the Best Practice. These business requirements directly affect technology design and the team felt adding some of the factors that were uncovered during discussions would have potential value as others began to apply the Best Practice. This section will continue the approach of focusing on the type of technology and not be specific in places where multiple technologies could apply.

5.1.1 Capacity

Capacity in website design is generally focused on two factors. The first is bandwidth, or the available number of users who can access the site at any given time. The second is storage which equates to the volume of information the website must store. Of course, these factors are related and tied together.

The website described in the Best Practice is retailer-focused. Therefore, the number of potential users of the website is established by the number of retailers the lottery anticipates having over the life of the website. Further, the Best Practice defines the minimum set of data that must be available and the retention factor for this data. Simple math can establish the minimum number of instances of data that the website technology must handle. The number of data instances established by the Best Practice would be:

- Invoices equals “Anticipated Number of Retailers” multiplied by the “Number of Invoices in 16 months”
- Daily Financial Data equals “Anticipated Number of Retailers” multiplied by the “Number of business days in 13 weeks”
- Daily Instant Ticket Inventory levels equals “Anticipated Number of Retailers” multiplied by the “Number of business days in 13 weeks”

The sheer number of data instances established by the Best Practice drives the need for some form of database that will store and maintain those data instances. This database will have the potential of being accessed in volume by all of the lottery retailers on a daily basis. Design needs to account for this level of queries against the database. It should also be noted that the lotteries’ existing systems that generate this data are generally working at or near capacity in their
The Best Practice by design establishes the base set of core requirements for a retailer-focused website. Design should factor in the need to expand services offered on the website. These additions will be driven by many factors, some of which include retailer requests, lottery plans, and additional work by NSI. In any case all of the drivers that will increase requirements for the website cannot be anticipated at the time of design. Therefore, scalability of the website should be a primary design consideration. In short the design should be able to add capacity without the need to completely replace the system.

5.1.3 Reliability

The retailer website established in the Best Practice provides a primary service to retailers in the daily operation of their lottery business. As such, this will be a service that retailers will rely on. If the website does not perform it will not be used. Reliability can be influenced by many factors. Capacity has already been addressed. Other factors include:

- The stability of the underlying technology utilized in the design. Established technologies with a proven track record are a key part of a reliable design.
- Redundancy of components utilized in the design. Single component failure should not make the website unusable.
- Design should anticipate malicious attacks. Denial of Service is a real threat and each technology approach has means to minimize the impact of such an attack.

5.1.4 Flexibility

Websites are bound to change. Change can come in many forms and design cannot anticipate the types of changes that may occur during the life of the website. Accommodating change can still be factored into design by use of componentization. This technique utilizes component-based architectures to provide services and technologies that make up the overall site. Thus, the site is a series of interlinked components, not a monolithic system. Change will then be more likely to affect only one or a few components and not the entire system. The impacted components can then be modified or upgraded without the need to modify the entire site.

5.1.5 Support

The website will become a consistent means for retailers to access key data provided by the lottery. This is a long-term business system and support over time is a factor of design. Design should consider ongoing support for the site from the aspect of support for the underlying technology, support for any customizations, and support for increased functionality. Additionally, design should anticipate the need for a vendor change.
5.1.6 Security

Security mentioned in the Best Practice has been focused on the aspects of security between the retailer accessing the site and the website. It has not delved into the security of the actual architectural implementation of a website. This is a practical necessity since each technology approach will come with a specific set of security requirements. In short, no system is foolproof and any attempt to list all of the factors in currently available systems will have a short useful life since the area of security is very dynamic. That said, there are some design considerations that can be considered in any web-based solution:

- Separate the delivery system from the system that retrieves and assembles the content. Users should only access the delivery system.
- All systems within the architecture should only have the services needed by the architecture enabled. All other services should be disabled.
- Activity should be logged.
6 Tools to Support the Best Practice

This section describes the tools that support execution of this Best Practice. These tools are provided as guidance for adoption of the Best Practice. The use of any of the specific tools described within this section is not required for a business practice to be considered conformant with this NSI Best Practice, unless such use is specified in the requirements in Chapter 4.

There are no tools defined in this version of the Best Practice.
Defining conformance and creating a certification policy and program for this Best Practice is the next step in establishing an effective Best Practice. Without the associated conformance criteria and certification processes, there is no assurance that a practitioner has implemented practices according to the approved Best Practice.

Certification provides formal recognition of conformance to an industry Best Practice or Technical Standard specification, which allows:

- Suppliers and practitioners to make and substantiate clear claims of conformance to a Technical Standard or Best Practice
- Buyers to specify and successfully procure from vendors who conform to a Best Practice or provide solutions that conform to a Technical Standard

Following the approval of this Best Practice, the NSI will work with The Open Group to establish conformance criteria and define an associated Certification Program for this Best Practice. Conformance assessment is the act of determining the conformance of an implementation to a specification, or the adherence of a business operation to a best practice or process definition. There are many techniques for assessing such conformance, including the use of a standardized test method, quality assessment by industry experts, and vendors’ claims of conformance made within a defined legal framework. The techniques to be used will be chosen during the process of defining the Certification Program.

Following implementation of the Certification Program, practitioners wishing to have their business practices certified as conformant to the Best Practice will be able to apply for certification of their business practices, at which time a conformance assessment will be performed.
## APPENDICIES

### A Requirements Checklist

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Level</th>
<th>Practitioner</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation for Retailer Web-Based Applications (Section 4.1)</strong></td>
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<tr>
<td><strong>Website</strong></td>
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<tr>
<td>1 The Lottery must provide a retailer-focused website.</td>
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<td>4.1.1.1</td>
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<tr>
<td>2 The Lottery should utilize XML 1.0 Third Edition as the primary exchange</td>
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<td>3 The Lottery should utilize XSL Version 1.0 as the primary presentation</td>
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<td>format for XML-based data utilized in the retailer-focused website.</td>
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<td>Style Sheets (CSS) to provide layout for web pages that are not based</td>
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<td>on defined XML data sets.</td>
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<td>5 The Lottery should make available all XML schemas used for the</td>
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<td>transmission of data as documentation that is part of the retailer-</td>
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<td>focused website.</td>
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<td>6 The Web-based Technology Vendor must provide lotteries with a retailer-</td>
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<td>exchange standard for dynamic data within the retailer-focused website.</td>
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<td>focused website.</td>
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<td>pages in the retailer-focused website that are not based on defined XML</td>
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<td>data sets.</td>
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<td><strong>Website Security</strong></td>
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<td>10</td>
<td>The Lottery must employ encryption for sessions with a minimum standard of SSL and 128-bit encryption or equivalent technology.</td>
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The Retailer should obtain the instant ticket data for the previous business day from the website and compare this data to actual counts.
B Documentation Checklist

This appendix summarizes the various documentation responsibilities of each party.

Under Responsibility, the following terms are used with these associated meanings:

**Sole** For documents in which the specified party has sole responsibility for producing the document in accordance with the requirements of this Best Practice.

**Primary** For documents that are to be authored by both parties, this identifies the party with the lead authoring role, and who has overall responsibility for producing the document in accordance with the requirements of this Best Practice.

**Secondary** For documents that are to be authored by both parties, this identifies the party that will work with the lead author to produce the document. The Secondary role has the responsibility to provide inputs, author portions of the document, and collaborate with the lead author to ensure successful completion of the document.

### Lottery Requirements

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### Vendor Requirements

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Glossary

The following terms and acronyms are used in this document:

ADA    Americans with Disabilities Act
CSS    Cascading Style Sheet
CSV    Comma Separated Value(s)
FTP    File Transfer Protocol
LDAP   Lightweight Directory Access Protocol
PDF    Portable Document Format
SFTP   SSH File Transfer Protocol
SSL    Secure Sockets Layer
XHTML  Extensible HyperText Markup Language
XML    Extensible Markup Language
XSL    Extensible Stylesheet Language