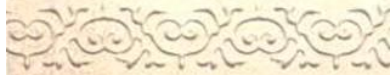




**SOFTWARE REQUIREMENTS SPECIFICATION  
AHORRA MÁS, VIVE MEJOR HISPANIC DIGITAL PLATFORM**

Wal-Mart Stores, Inc.

April 2008



LOPEZ  
NEGRETE

# SOFTWARE REQUIREMENTS SPECIFICATION APPROVALS

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## **1 Global Requirements**

### **1.1 Strategic Overview**

This document is a detailed functional specification of the AhorraMásViveMejor.com (AMVM) project prepared by Lopez Negrete for Wal-Mart. Its purpose is to provide a complete system description on which all design, development and testing will be based, as well as a measure of accuracy once development is complete.

### **1.2 Project Mission Statement**

The primary goal of this initiative is to brand AhorraMásViveMejor.com as a bilingual Hispanic digital platform designed to help users optimize their resources by offering them the product information, planning tools and the culturally relevant content that will help them save money and live better.

### **1.3 Project Objectives**

Differentiate Wal-Mart from the competition by focusing on the top drivers of overall impression and share of wallet among Wal-Mart Hispanic consumers.

- Target - Price Sensitive Hispanic Mom (acculturated and non-acculturated)
- Define business needs and functions
  - One-stop shop
  - Convenient locations
  - Products and brands
  - Low prices (circulars only)
- Determine the need for third party applications
- Define the best practice for implementation
- Ensure integration and collaboration with product sponsors and other relevant initiatives (third party content, applications and processes)
- Ensure the design and implementation support current and future business needs

### **1.4 Project Components**

The application shall contain the following components:

- Ahorra Más, Vive Mejor Website
  - Seasonal and Family Focused Interactive Landing Pages
  - Family Dashboard - Personalized Consumer Tools
  - Sponsor Tools
  - Back-office Administrative Tools

### **1.5 Applicable Documents**

- Hosted Offsite Security Risk and Compliance Review (SRCR)
- Preliminary Proof of Concept Designs

## **2 Functional Requirements**

The application is comprised of multiple web based functional processes: Interactive Landing Pages, Consumer Tools, Sponsor Tools and Back-office Administrative Tools. The site will be administered through the Sponsor Tools and Administrative Tools.

Note: There may be some discrepancies between these fields and the final application design. In all cases, the actual text description of fields, controls and rules should be referenced as the final authority on development.

### **2.1 Application Requirements**

Wal-Mart desires an interactive bilingual Hispanic digital site providing user personalized value-added tools used to enhance the entire user experience, providing the user valuable reasons to keep returning to AMVM, fostering brand loyalty and a sense of user empowerment through personalized content and presentation options,

The application shall also streamline the integration with third party content providers and co-branding opportunities.

#### **2.1.1 Conventions**

Lopez Negrete Communications has focused our web application development efforts on the Microsoft .NET 2.0 platform, and we encourage our clients to take advantage of the many rapid development solutions (RDS) available in .NET Framework. We also support programming and scripting languages such as ColdFusion and PHP. The services and functions specified in this document are based on the following assumptions and conventions:

- Development & Programming Languages
  - Microsoft C#
  - Adobe Flash ActionScript 3.0
  - JavaScript
  - Ajax
- Hosting Environments
  - Microsoft Windows Server 2003
  - Microsoft .NET 2.0
  - Microsoft .NET Framework
  - Microsoft SQL Server 2005

#### **2.1.2 System Components**

The system is a web based Microsoft .NET application that connects to a Microsoft SQL Server database. The database for the website application will reside on MS SQL 2005 server. The primary programming languages will be .NET C#, SQL and Flash ActionScript. Secondary programming and scripting languages may include: JavaScript, Ajax, XML and VB.

#### **2.1.3 Exception (Error) Handling**

Exception errors shall be handled on the client side by displaying pre-formatted, template generated error messages. C#, ASP.Net and/or JavaScript code processes all error handling, and performs client side data validation of required form fields. Validation shall display alerts if

required fields are left blank or other validation methods fail (only alpha, only numeric, special character inputs, etc.).

When a system error occurs (e.g.: ODBC, DLL or script error), an email shall be sent to the Lopez Negrete development team for review. Redundant server validation may also be utilized. Multiple database transactions are always to be wrapped as a "transaction" that reverses all transactions (insert/update/delete) in the event of an error/failure of any one of the transactions. When an email error occurs while processing system generated email messages, the application shall log the error and continue processing.

## **2.2 Ahorra Más, Vive Mejor Website**

The Ahorra Más, Vive Mejor Website shall focus on the development of seasonal themed (Holidays, Back to School, etc.) Landing Pages allowing user to review Featured Products, access product information, view Sponsor Co-Branding content and access Personalized Consumer Tools.

### **2.2.1 Seasonal Landing Page (Home page)**

The Seasonal Landing Page displays an introduction to the platform and navigation elements.

- Brand Identity / Graphics
- Primary Navigation Elements
- Contextual Entry Points
- Featured Products
- Featured Articles (e.g.: Preparing for a Baby Shower)
  - Feedback
  - View More Articles
- User Polls - Optional
- Sponsor Co-Branded Container
- User Registration / User Login link to Family Dashboard - Personalized Consumer Tools
- Send to a Friend (email)
- Secondary (text based) Navigation

### **2.2.2 Navigation Elements**

The navigation elements shall display primary and secondary navigation methods.

Primary application sections presented as areas of the home (kitchen, children's room, etc.) accessed via an interactive display and/or conventional menu navigation elements.

#### **Primary**

- Seasonal:
  - Hispanic Heritage (9/1/08 launch)
  - Holiday (11/1/08)
- Primeriza - Baby
- Family Gatherings – Entertaining
- View Advertising

- En tu Wal-Mart (Store/Brand Catalogues)
  - Seasonal/Brand Catalogues
  - Circulars "View Local Ad"
- Language Selection
  - Spanish
  - English
- Find a Store
- View Product Recalls
- Search
  - Search Ahorramásvivemejor.com
  - Search WalMart.com
- Make AMVM My Home Page Function
- Family Dashboard - Personalized Consumer Tools (e.g.: shopping lists, virtual planner)

#### **Secondary (text based) Navigation**

- Contact Us link
- Privacy Policy link
- About Us link
- User Registration / User Login link

#### **2.2.2.1 Contact Us**

The Contact Us page shall display contact info for Wal-Mart Stores, Inc.

- Link to Wal-Mart corporate website
- Link to Wal-Mart corporate Customer Service email form
- Wal-Mart corporate mailing address

#### **2.2.2.2 Privacy Policy**

The Privacy Policy page shall display the current Wal-Mart corporate Privacy Policy.

#### **2.2.2.3 About Us**

The About Us page shall display the current Wal-Mart corporate "About WalMart.com" website.

#### **2.2.3 Primeriza Landing Page (Baby)**

The Primeriza page provides an Interactive display of the selected home area including related Featured Products and/or Sponsor Co-Branded content.

Purpose statement: Help Hispanic new moms and moms-to-be with their quest of making their home a better place so they can live a better life.

- Featured Products
- Sponsor Co-Branded Container
- My Room Designer



- Associated Product Categories
  - Product details
  - Cross Promotion items
- Featured Articles (e.g.: Preparing for a Baby Shower)
  - Feedback
  - View More Articles
- Tips & Suggestions (e.g.: “Mamá Bella” – Helpful beauty tips for new moms)
- User Polls - Optional
- Baby Registry
- Wish List
- Context Specific Articles
- User Registration / User Login link to Family Dashboard - Personalized Consumer Tools
- Send to a Friend (email)

## **2.2.4 Family Gatherings Landing Page (Entertaining)**

The Family Gatherings page provides an interactive display of the selected home area including related Featured Products and/or Sponsor Co-Branded content.

- Featured Products
- Sponsor Co-Branded Container
- My Room Designer
- Associated Product Categories
  - Product details
  - Cross Promotion items
- Featured Articles (e.g.: How to celebrate on a budget, Upcoming celebrations)
  - Feedback
  - View More Articles
- Tips & Suggestions
- User Polls - Optional
- Food Section
- Menu Suggestions
- Context Specific Articles
- User Registration / User Login link to Family Dashboard - Personalized Consumer Tools
- Send to a Friend (email)

### **2.2.4.1 Food Section**

This section displays featured Foods and editorial content.

- Food Department(s) – (e.g.: Meat Market, Bakery, Deli)
- Associated Text Content
- Associated Images

### 2.2.4.2 Menu Suggestions

This section displays featured Menus and editorial content.

- Get more menu ideas
  - Showcase recipes from experts (sponsors)
  - Showcase recipes from around the world
  - Showcase recipes from AMVM community
- Add your recipes
- Cross linked to Meal Planner
- Cross linked to Shopping List
- Send to a Friend (email)

### 2.2.5 Catalogue Landing Page

The Catalogue page provides an interactive display of the current period's Circulars including related Featured Products and/or Sponsor Co-Branded content.

- Featured Products
- Sponsor Co-Branded Container
- "View Local Ad" - Interactive display of the current period's Print Circulars
- Associated Product Categories
  - Product details
  - Cross Promotion items
- User Registration / User Login link to Family Dashboard - Personalized Consumer Tools
- Send to a Friend (email)

### 2.2.6 My Room Designer

The Room Designer component provides an interactive display of the selected room (e.g.: Baby: Nursery, Family Gathering: Backyard Bar-B-Q) populated with Featured Products. It enables users to design a personalized environment through dynamic product selections and save their selections via the Personalized Consumer Tools. The value of this tool is that it provides the user the information they need to plan the purchase of their designed room.

- **Selected Room visual display**
- **Product display**
  - Name
  - Price Range
    - Premium
    - Mid-range
    - Budget
  - User Ratings
  - Change Selection
    - Add
    - Edit
    - Delete
    - Save

- Add to Financial Planner
- Add to Shopping List
- Printer Friendly Format
- Send to a Friend (email)

### 2.2.7 Find A Store

The Find a Store page provides an easy to use tool to locate stores by US Postal Codes (zip code).

- **Find A Store**
  - US Postal Code entry form
- **Store Locations search results**
  - Summary list of the twenty (20) nearest stores
    - City
    - State
    - US Postal Code
  - Interactive map
  - Detailed list of the twenty (20) nearest stores
    - Store Name/Number
    - Address
    - City
    - State
    - US Postal Code
    - Telephone
    - Distance in miles
  - Site to store?
  - Make This My Store?
  - Link to Store details
  - Link to Directions
  - Link to Advertised Values for selected store

### 2.2.8 User Registration

The User Registration section allows users to create new user accounts.

- Link to Terms & Conditions Acceptance
- Create User ID (user email address)
- Create Password
- Contact Information
  - Name
  - Address
  - Phone
  - Email

### **2.2.8.1 User Login**

This section allows registered users to access their Family Dashboard - Personalized Consumer Tools.

- User ID
- Password
- Link to User ID / Password Retrieval

### **2.2.8.2 User ID / Password Retrieval**

The User ID / Password Retrieval section allows users to verify their account and be emailed their login information.

### **2.2.8.3 User Profile Management**

The Manage User Profile section allows users to update their platform profile.

- Manage Profile Information
- Manage My Tools
- Manage My Start Page (Baby, Family Gatherings, etc.)
- Make AMVM My Home Page
- Mailing List – Opt in/out

## **2.2.9 Family Dashboard - Personalized Consumer Tools**

This section allows registered users to manage their personal content.

- All user tools shall allow the user to configure the tools display:
  - Minimize tool window
  - Maximize tool window
  - Close tool window
  - Relocate tool window

### **2.2.9.1 Your Stories**

This section allows registered users to publish their personal experiences.

- Selection of associated primary application sections
  - Primeriza
  - Family Gatherings
  - Seasonal
- Editorial content editor
  - MS Word style formatting tool bar(s)
- Send to a Friend (email)

### **2.2.9.2 Event Calendar(s)**

This section allows registered users to manage their Event entries.

- Display pre-populated with default holidays
- Display personalized events: birthdays, weddings, etc.
- Manage personal events
  - Add
  - Edit
  - Delete
  - Send to a Friend (email)
  - Printer Friendly Format
  - Save to MS Outlook
  - Send to Mobile

### **2.2.9.3 Planner**

This section allows registered users to manage their Planner entries.

- Party Planner
  - View Menu Suggestions
  - Event Name
  - Event Date/Time
  - Add
  - Edit
  - Delete
  - Add to Shopping List
  - Printer Friendly Format
  - Send to a Friend (email)
  - Send to Mobile
- Meal Planner
  - View Menu Suggestions
  - Select Day of Week
  - Add
  - Edit
  - Delete
  - Add to Shopping List
  - Printer Friendly Format
  - Send to a Friend (email)
  - Send to Mobile

### **2.2.9.4 Shopping List**

This section allows registered users to manage their Shopping List entries.

- Manage Shopping List
  - Add
  - Edit
  - Delete
- Print Function

- Printer Friendly Format
- Send to a Friend (email)
- Send to Mobile

### **2.2.9.5 My Recipes**

This section allows registered users to manage their Recipe entries.

- Manage Recipes
  - Add Your Recipe
  - Edit
  - Delete
  - Make Public
  - Printer Friendly Format
  - Send to a Friend (email)
  - Link to Menu Suggestions
- Add to Meal Planner
- Add to Shopping List

### **2.2.9.6 Friends & Family Contacts**

This section allows registered users to manage their Contact entries.

- Search
- Add
- Edit
- Delete
- Printer Friendly Format
- Send to Mobile

### **2.2.9.7 Gift Registries (Baby, Bridal, etc.)**

This section allows registered users to manage their Gift Registries entries.

- Wish List Name
- Associated Family Member
- Associated Occasion
  - Add
  - Edit
  - Delete
  - Printer Friendly Format
  - Send to a Friend (email)

### **2.2.9.8 Wish Lists**

This section allows registered users to manage their Wish List entries and allows for multiple family members and/or occasions: birthdays, Christmas, etc.

- Wish List Name
- Associated Family Member
- Associated Occasion
  - Add
  - Edit
  - Delete
  - Printer Friendly Format
  - Send to a Friend (email)
  - Add to Planner

### **2.2.9.9 Finances**

This section allows registered users to manage their Finance entries.

- Manage Budget Planner
  - Provides an easy to use tool to track and manage expenses and plan future purchases
- Wal-Mart Financial Services Tie-in
- Add Expense
- Edit Expense
- Delete Expense
- Printer Friendly Format

### **2.2.9.10 User Feedback**

This section allows registered users to add product feedback.

- Selected Product Details
- User Feedback Text Area

### **2.2.9.11 User Product Rating**

This section allows registered users to add product rating.

- Selected Product Details
- User Rating Options

### **2.2.9.12 Ask the Expert**

This section allows registered users to submit product questions.

- Selected Product Details
- Email Form

### **2.2.9.13 FAQs**

This section allows registered users to view Frequently Asked Questions.

- Selected Product Details
- View FAQs

### 2.2.9.14 Help

This section allows registered users to submit website questions.

- Link to FAQs
- Email Form

### 2.2.10 Sponsor Tools

This section allows authorized users to manage product information, featured product information and Sponsor Co-Branded content via web based tools. Web Services may be utilized to manage Sponsor Tools/content on a case by case basis that is outside of the scope of this document.

#### 2.2.10.1 Sponsorship Channel Containers

This section allows authorized users to manage Sponsorship entries.

- **Select Primary Section (Channels)**
  - Seasonal
  - Primeriza
  - Family Gatherings
  - Catalogue
- **Select Sponsorship Level Options (Containers)**
  - Co-op Interactive Landing Page
  - Sponsor Branded Container
  - Featured Product Container
  - Featured Articles Container
  - Tips & Suggestions Container
- **Select Product (Content)**
  - Upload content – via web forms or web services
    - Sponsor Driven Content
    - Co-developed Content
    - Associated Text Content
    - Associated Images
- Preview content
- Publish content – requires administrator approval

#### 2.2.10.2 Product Management

This section allows authorized users to manage Product entries.

- Add
- Edit
- Delete
- **Product Details**
  - Name



- Description
- Translation Request
- Image
- SKU
- Price Range
  - High-end
  - Mid-range
  - Budget
- URL – link to WM.com
- Cross Promotion items
- Associated Product Categories
  - Dynamically generated range of categories
  - Default categories:
    - Apparel
    - Brands
    - Gear
    - Health & Safety
    - Price (Hi-Low, Low-Hi)
    - User Ratings (Top rated)
    - Toys
- User Ratings
- Ask the Expert – Sponsored Co-Branded content

### 2.2.10.3 Demos / Games

This section allows authorized users to manage Demos and Game entries.

- Selection of associated primary application sections
  - Primeriza
  - Family Gatherings
  - Seasonal
- Upload content
  - Sponsor Product Demos / Games
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
  - Translation Request
- Preview content
- Publish content – requires administrator approval

### 2.2.10.4 Featured Products

This section allows authorized users to manage Featured Products entries.

- Selection of associated primary application sections

- Primeriza
- Family Gatherings
- Seasonal
- Selection of Product
- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.10.5 Featured Articles**

This section allows authorized users to manage Featured Article entries.

- Selection of associated primary application sections
  - Primeriza
  - Family Gatherings
  - Seasonal
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.10.6 Tips & Suggestions**

This section allows authorized users to manage Tip & Suggestions entries.

- Selection of associated primary application sections
  - Primeriza
  - Family Gatherings
  - Seasonal
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.10.7 Context Specific Articles**

This section allows authorized users to manage Context Specific Article entries.

- Selection of associated primary application sections

- Primeriza
- Family Gatherings
- Seasonal
- Circular
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.10.8 Recipes**

This section allows authorized users to manage Recipe section entries.

- Selection of associated application sections
  - Recipes from experts (Sponsors)
  - Recipes from around the world
  - Seasonal
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.10.9 En tu Wal-Mart (Store/Brand Catalogues and Circulars)**

This section allows authorized users to manage Catalogues and Circulars.

- Selection of associated primary application sections
  - Primeriza
  - Family Gatherings
  - Seasonal
  - Store/Brand Catalogues
    - Seasonal/Brand Catalogues
    - Circulars “View Local Ad”
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images

- Translation Request
- Preview content
- Publish content – requires administrator approval

### **2.2.11 Back-office Administrative Tools**

The Back-office Administrative Tools allows administrator users to manage interactive Landing Pages & sections, Sponsor Tools, product information, User Tools and web content including images, rich media content and related content.

- Landing Pages Administration
  - Seasonal Themes Administration
- Product Categories Administration
- Featured Product Administration
- Sponsor Co-Branding Administration
- Circular Administration
- Food Section Administration
- Menu Suggestions Administration
- User Profiles Administration
- Sponsor Profiles Administration
- Access to Sponsor Tools
- Access to Consumer Tools
- Access to Metric Reporting Tools

\* Basic CMS functionality is restricted to specific content sections and will generally not support modification of navigation elements and/or website architecture.

#### **2.2.11.1 Interactive Landing Page Administration**

This section allows authorized users to manage interactive Landing Page components.

- Selection of associated primary application sections
  - Seasonal
  - Primeriza
  - Family Gatherings
  - Seasonal
  - Circular
  - Add New Section/Landing Page
- Upload content
  - Sponsor Driven Content
  - Co-developed Content
  - Associated Text Content
  - Associated Images
- Preview content
- Publish content – requires administrator approval

### **2.2.11.2 Product Categories Administration**

This section allows authorized users to manage Product Categories

- Default range of categories:
  - Apparel
  - Brands
  - Gear
  - Health & Safety
  - Price (Hi-Low, Low-Hi)
  - User Ratings (Top-rated)
  - Toys
- Add
- Edit
- Delete

### **2.2.11.3 Sponsor Tools Administration**

This section allows authorized users to manage Sponsor Tools defined in section 2.2.10.

- Selection of Sponsor Tool
  - Review content
  - Publish content – requires administrator approval

### **2.2.11.4 Food Section Administration**

This section allows authorized users to manage the Food Section components.

### **2.2.11.5 Menu Suggestions Administration**

This section allows authorized users to manage the Menu Suggestions components.

### **2.2.11.6 User Profile Administration**

This section allows authorized users to manage User Profiles.

### **2.2.11.7 Sponsor Profile Administration**

This section allows authorized users to manage Sponsor Profiles.

### **2.2.11.8 Metric Reporting Tools**

The Metric Reporting section allows Administrator users to generate real time reports on site traffic, registrations, opt-ins, CTRs, etc.

### **3 Technical Requirements**

The purpose of the Technical Requirements section is to describe the organization of the software system and platforms that will support the development of functionality outlined for the AMVM Hispanic digital platform. This section describes the significant decisions about the organization of the software, the makeup of the existing system, as well as the extensions required to support the proposed functionality. This section describes other factors that will influence the architecture, including usage, performance, software requirements, and reliability, as well as technical constraints.

#### **3.1 Application Requirements**

##### **3.1.1 Security**

The application will implement (user) role based access to control and restrict access to Sponsor & Administrative functionality. Users/Roles will be managed using user accounts for Administrator & Subscriber access via the .NET User Profile and utilizing database tables Users and Roles to enforce authentication and authorization for general users.

##### **Assumptions**

- Access to the Administration sections(s) requires validated user authentication
- The application supports multiple user roles to limit access to sensitive information and input forms
- Portions of the application/website shall be developed in .NET version 2.0 and ActionScript 3 programming languages
- The production environment supports .NET version 2.0 or better, SQL Server 2005 or better, and Flash 9.0 or better
- Application and SQL servers are properly maintained and administered by authorized maintenance personal
- All updates to the application design and functionality shall be administered by Lopez Negrete

##### **Risks**

- Unauthorized user access to the server(s) directories and files can result in undesired modifications to the content, structure and layout of the application.
- Unauthorized user access to the SQL server database can result in loss of data integrity and in data corruption.

#### **3.2 Hardware & Software Requirements**

The application will need the following hardware & software requirements met, at a minimum, to perform as specified:

##### **3.2.1 Portal Application Server Requirements**

The Application Server(s) need/s to meet the following hardware/software requirements:

- Minimum Processor Requirements: Intel Pentium III class processor or higher (> 2.0Ghz)
- Minimum Memory Requirements: 2Gb RAM or higher (4Gb recommended)
- Hard drive, with at least 250Gb disk space (20Gb for OS, 50Gb for application, 150Gb for application assets)
  - Optimal 1+Tb RAID Array
- Windows 2003 Server (SP3 or latest SP)
- IIS 6.0 (or later), MDAC 2.7, .NET Framework 2.0, TCP/IP

### **3.2.2 Database Server Requirements**

The relational database server needs to meet the following hardware/software requirements:

- Minimum Processor Requirements: Intel Pentium III class dual-processor or higher (>2.0Ghz)
- Minimum Memory Requirements: 1 Gb RAM or higher (2Gb recommended)
- Microsoft Windows 2003 Server (latest SP)
- Microsoft SQL Server 2005 (latest SP)

### **3.2.3 Client Browser Requirements**

The application will allow users to interface with the system's database via a standard web browser.

- Internet Explorer 6.0 or greater
- FireFox 1.5 or greater
- Safari
- Camino

### **3.2.4 SMTP Server**

Report publication notification shall be made via system generated email handled by the web server's integrated SMTP functionality. Clarification: Assumes Microsoft Internet Information Server (IIS 6.0 or higher) as the web server.

### **3.2.5 Web Hosting Recommendations**

There are a variety of hosting options available and Lopez Negrete can coordinate installation and configuration of the site components with Wal-Mart's designated web host. Anticipating typical site traffic and bandwidth requirements, LNC recommends multiple dedicated servers acting as both web server and database server sufficient to accommodate peak usage. In the event server capacity is being approached, the system can be reconfigured to a clustered pair of web servers; subsequently a dedicated SQL server could be added. A clustered configuration allows for virtually unlimited growth as additional web servers can easily be added to the cluster.



**Typical hosting configuration:**

- Dedicated Hosting Solution - Dual Clustered Servers
  - Microsoft Windows Server 2003
  - Web Server
    - Microsoft Windows Server 2003
    - IIS 6.0
    - .NET 2.0
  - Hardware Load Balancer
  - Managed Backup - Schedule: Daily Incremental / Weekly Full Retention: 2 Weeks
  - Network Aggregate Bandwidth – 400Gb (Outgoing) per Month - Included
  - MS SQL Server
  - Secure Socket Layer (SSL 128bit) Certificate
  - Web Analytics Reporting

### **3.3 Licensing Requirements**

These are the technical licensing requirements:

- 1 License for Microsoft Windows 2003 Server
- 1 License for Microsoft SQL Server 2005, Standard Edition

### **3.4 Development Tools & Technologies**

Below is a list of tools and technologies to be considered for the development of the application:

- Adobe Flash ActionScript 3 may be used for delivering dynamic site content
- Microsoft .NET Framework
- ASP.NET – Active Server Pages may be used for delivering dynamic site content
- C# – The C# language may be used for:
  - Client application code
  - Admin application middleware
  - Data import/update module
- Active Data Object .NET – ADO .NET will be used for the common data access from the database to the business and integration objects. Since development and time-to-market is increased, ADO is the optimal choice for data access
- XML – XML will be used as the data transport protocol between services. XML is becoming an industry standard and will provide a level of integration consistency between the server layers



