Class Objectives

- Overview of the Siriusware system architecture.
- To introduce the different applications.
- Hardware requirements.
- Improving performance and availability.
System Overview

• Siriusware uses a traditional three-tier architecture.
• Each tier is developed and maintained as independent modules.
• Allows any of the three tiers to be upgraded or replaced independently as requirements or technology change.
Data Tier Overview

• Where persistent information is stored and retrieved.
• Ensures that the data is stored correctly.
• Recovers all data to a point of known consistency in the event of a system failure.
• Manages the databases and allocates the available server resources.
• **Applications** – Microsoft SQL Server (2005/2008), SQL Server Management Studio (SSMS)
Logic Tier Overview

• Functional algorithms which handle information exchange between a database and a user interface.
• Central processing/logic common to all applications.
• **Applications** – Middleware servers: SalesEZ, BookEZ, RentEZ, TallyEZ, ww.dll
Presentation Tier Overview

• The user interface for the end-user applications.
• **Applications** – Sales, SysManager, ReportManager, SeeBooks, E-Commerce pages, TechStation, Self-Entry, PayManager, etc.
Hardware Components

- Siriusware components and 3rd party components.
- Your hardware requirements is dependent on the volume of transactions and modules purchased.
- See the Salesware System Architecture and Specifications for the recommendations.
- Example diagram:
The Data Tier

- Siriusware is based on Microsoft SQL Server.
- Salesware is compatible with Microsoft SQL Server 2005, and 2008 in native mode.
- Are you a high volume site? Consider replication.
- Custom reports can be created in-house or purchased through Siriusware using Microsoft SQL Server Reporting Services.
- Need high availability of your data? Consider failover clustering.
Business Logic Tier (Middleware Servers)

- SalesEZ
  - The interface between the salespoints and the database.
  - The optimal number of instances of SalesEZ may vary.
  - Consider giving SalesEZ its own dedicated server.
  - Connection status: Service Monitor application or the ‘S’ M&M on the individual salespoint.
Business Logic Tier (Middleware Servers)

- **BookEZ**
  - Specifically handles private and pod (group, facility) bookings.
  - Connection status: Service Monitor application or the ‘B’ M&M on the individual salespoint.

- **RentEZ**
  - RentEZ is a pooled application that links rental inventory activity with salespoints and TechStations.
  - RentEZ has its own local data that is updated using FileSync so that the rental shops can operate completely off-line form the Siriusware SQL Server.
  - Connection status: Service Monitor application or the ‘R’ M&M on the individual salespoint.
Business Logic Tier (Middleware Servers)

- **TallyEZ**
  - TallyEZ is a pooled application that works in conjunction with TallyMan for retail inventory management.
  - It is used in a wireless network environment with handheld Symbol scanners.

- **Property Management System Interface**
  - Property Management Server Interface uses the Micros 8700 standard to communicate with and make charges to property management customer folios.
Business Logic Tier (Middleware Servers)

- E-Commerce
  - Uses Microsoft Internet Information Services (IIS).
  - WW.DLL running as a Web Service.
  - Needs access to an SMTP mail server.
Presentation Tier (Applications)

- Sales
  - Point of sale application. This is the main interface for interacting with the customers.
  - Four interfaces: Classic, Sales Host, Kiosk, and SimpleCharge.
Presentation Tier (Applications)

- **Management Applications**
  - SysManager – Used to configure the system and the available products as well as perform managerial tasks on accounts, bookings, and guests.
  - ReportManager – Used to produce reports on the SQL Server data.
  - PayManager – Used to process payroll for instructor based bookings.
Presentation Tier (Applications)

- **E-Commerce Pages**
  - Written in ASP.NET and are the interface for home-based internet users.
  - We provide web pages. You can customize them or hire us to do so. You can also create your own which interfaces directly with ww.dll.
  - The web server running the ASP.NET E-Commerce pages can be hosted either internally or externally.
Presentation Tier (Applications)

- Internally hosted pages
Presentation Tier - Applications

- Externally hosted pages
Access Control and Retail Inventory Architecture

- **Access Control & Retail Inventory**
  - GateKeeper – Interface for turnstiles.
  - ScanMan – Interface for handheld scanners.
  - TallyMan – An inventory management interface on a handheld scanner.
Shared Local Data - FileSync

- Food & Beverage
  - In order to increase the availability of saving and recalling food and beverage sales in an environment where the connection to SalesEZ may fail, Siriusware allows for shared local data that is synced with the SQL Server data via FileSync.
Rentals Architecture

- Two interfaces: One for a PC (TechStation) and one for a handheld PocketPC (TechStationPPC).
- Self-Entry stations: allows customers to enter their personal information prior to being serviced by a tech.
Rentals Architecture Diagram

- Rentals

[Diagram of Rentals Architecture]
Peripheral Hardware

• The Siriusware system can be used with the following peripheral hardware:

  - Receipt printers
  - Ticket printers
  - Pass printers
  - Retail label printers
  - Cash Drawers (USB and standard)
  - Barcode Scanners
  - Pole Display
  - Magnetic stripe readers
  - Touchscreens
  - Coin dispenser
  - Cameras
  - Programmable keyboards
  - Mobile computers/Scanners
  - Turnstile Gates
  - RFID
  - Driver’s License OCR scanners
  - Digital Signature Capture Devices
  - Scale

• See the Hardware Compatibility List to verify supported hardware prior to purchase or order directly through Siriusware to ensure compatibility.
Credit Card Architecture

• Credit Card Server
  • Siriusware has integrated with several different companies to provide credit card options for various countries. These include Elavon ProtoBase, Elavon DirectNet, Tender Retail CreditCheq, Ingenico PC-EFTPOS/OCV, and Direct Payment Solutions Payment Express.
  • With the exception of Tender Retail, all of the integrations require a third-party credit card server.
  • The credit card server must be in the DMZ and must follow all of the PA-DSS/PCI guidelines.
Credit Card Authorizations

- **Credit Flow**

1. The credit card is swiped at the salespoint.
2. An authorization request is sent over TCP/IP socket in plain text from the salespoint to the third party credit card server.
3. The authorization request is sent to the processing bank and a success/decline response is returned to the third party credit card server.
4. The credit card authorization is stored encrypted on the third party credit card server.
5. The response message is returned from the third party credit card server to the salespoint over the TCP/IP socket in plain text.
6. The authorization request (success/failure) is stored encrypted in the local data at the salespoint.
7. The local data from the salespoint is forwarded to the SQL Server database through SalesEZ and has already been encrypted before transmission (cipher text).
Credit Card Flow Diagram
Credit Card Flow Diagram
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Credit Card Flow Diagram
PA-DSS / PCI Compliance

• Payment Application Data Security Standards (PA-DSS) and PCI Compliance
  • What is PA-DSS? Why was it created?
  • How does PA-DSS relate to PCI compliance?
  • What is Siriusware’s responsibility?
  • What is the client’s responsibility?
  • Several classes this week related to PA-DSS/PCI
Standalone Architecture

• Siriusware uses a “store-and-forward” methodology.
• If a salespoint cannot connect to SalesEZ, it can still function off-line. This is also useful for off-site sales.
• Sales will attempt to automatically reconnect to SalesEZ periodically (configurable) if has detected that it is off-line.
Performance Considerations

• Filtered updates.
• Hardware Consolidation.
• Exclusive use.
• Beware of 3-D Screen savers!
Configuration Considerations

- **Microsoft Security Compliance (new in 4.1.01)**
  - No longer needs local Administrator privileges.
  - “Program Files” and “ProgramData” folders.
  - “System INI” and “Regular INI” configuration files.
  - Upgrading from 4.0.58 will be transparent.
  - EZ Pool now runs as a Windows service.
Configuration Considerations

- **Virtual Servers**
  - Microsoft Virtual Server or VMware allows several "virtual" servers to run on a single, powerful server.
  - Up to you to troubleshoot and test.
  - The hardware requirements for all Siriusware servers must be met when configuring your virtual servers.
  - You need qualified IT staff to set up and support it.
Configuration Considerations

- Importance of Power and Backups
  - UPS – A good idea.
  - SQL Server Backup – Do it, and TEST it!
Configuration Considerations

- WAN Configuration – multiple Salesware sites are connected over a WAN. Each site has its own data center (SQL Server database), but ticket and pass validation can occur between sites.
Thank You!