



SOA Case Studies

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Agenda

- ✓ Aeroplan
 - ✓ Merrill Lynch
 - ✓ e2Open
 - ✓ The Hartford
- 

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Aeroplan Case Study

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Aeroplan's Business

- Leading loyalty program in Canada, wholly owned subsidiary of Air Canada
- Aeroplan generates revenue through
 - mileage accumulation by selling miles
 - mileage redemption by arbitraging rewards value vs. mileage costs
 - Aeroplan can only recognize revenue when members redeem miles
- Member of 14 airline Star Alliance

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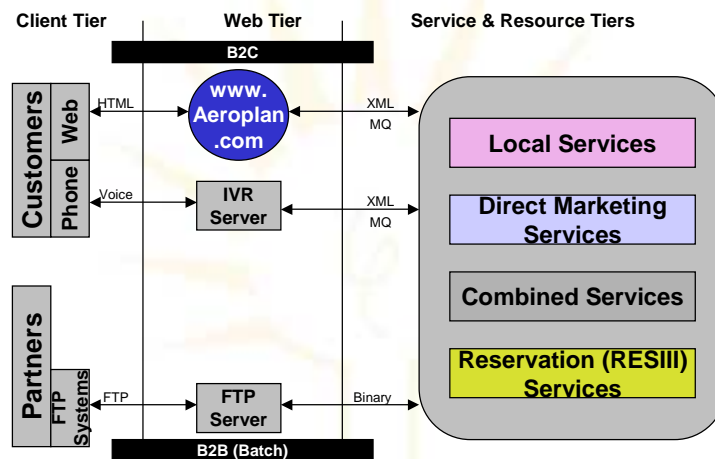
Aeroplan and Real-time Miles eCommerce

- CEO mandate: create new reward redemption opportunities for members
 - First to market with rewards eCommerce
 - Engage third-party companies to supply new rewards
- Add a new B2B (real-time) channel
 - Make rewards available to members in real-time through the Web channel
 - Protect members' privacy & prevent fraud
 - Add new redemption & accumulation partners seamlessly
- XML Web services were the most flexible and extensible architecture for this initiative.
 - XML-enabled mainframe with XML over MQ Series

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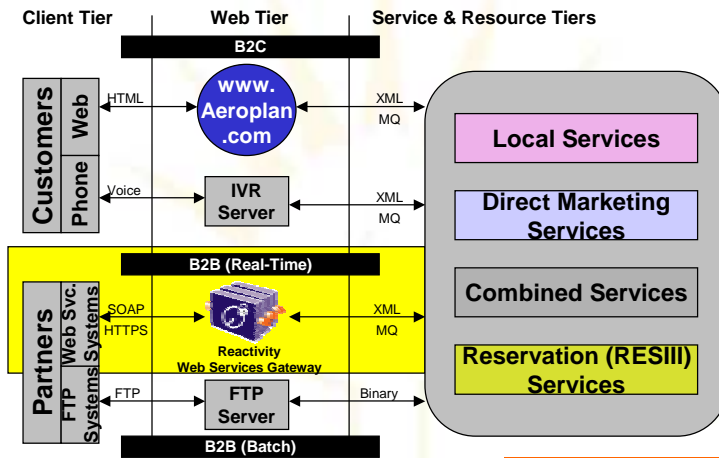
Current Electronic Channels



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Adding a New B2B (Real-Time) Channel



Enables Aeroplan to pursue new reward redemption opportunities with 3rd party partners.

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Technical Requirements

- Provisioning
 - Expose Aeroplan XML services to partners as WEB services
 - Manage protocol conversions and bridge non-homogeneous systems
 - Develop and troubleshoot collaboratively with partners
- Security
 - Keep security separate from business logic
 - Secure message exchange and enforce partner access control
 - Protect against threats, fraud & standards proliferation
 - Filter message content based on partner requirements
- Operations
 - Minimize development and implementation costs
 - Minimize impact on and use of enterprise systems
 - Visibility into transactions & monitoring impossible

Development of Services shared with their Customers!

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Why this approach?

- Best fit with existing technology
 - No modifications to back end systems
 - Easiest integration
- Fastest time to market
 - Reactivity rapidly responsive to Aeroplan requirements
- Highest confidence around confidentiality
 - WSS protects our customers' information
- Why Reactivity?
 - The Reactivity Web Services Gateway addressed security, ops & provisioning concerns best & fastest
 - The company showed aggressiveness & interest in solving our problems instead of just selling technology

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Meeting the Requirements

- Provisioning
 - Zero impact to Aeroplan's existing systems
 - Mediates partners sending SOAP/HTTPS to Aeroplan's XML over MQ
 - Dramatically reduced WS development costs and debugging time
- Security
 - Configuring and enforcing security independent of business logic
 - Secure and auditable message exchange
 - Protected against threats, fraud & standards proliferation
 - Filtering message content based on partner requirements
- Operational Scale
 - Proactively identifying debugging and production issues prior to crises
 - Managing with existing IT operations staff

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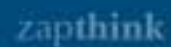


Takeaways

- **Provisioning + Security + Operations in a scalable appliance architecture = Rapid Time to Market**
- **Aeroplan went from POC to Production in 38 days start to finish**
- **Aeroplan launched first real-time miles-based e-commerce**
 - Addition of a new partner/redemption offer in hours
 - Enabling Aeroplan to grow its non-air redemption by more than 500% from 2004 to 2007
 - Saving Aeroplan money on communication and integration costs
- **What's next for Aeroplan**
 - Connect more redemption partners
 - Extend to mileage accumulation partners

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Merrill Lynch Case Study



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Merrill Lynch Case Study



Merrill Lynch

- Have over 23,000 live CICS (Customer Information Control System) applications
- Have thousands of systems, other applications, and person-years of custom development in place
- Wanted to leverage legacy investments across enterprise

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The Solution



Merrill Lynch

- Established "XML for Merrill Lynch" initiative they call X4ML
- Expose CICS transactions as Web Services
- Build UDDI-based registry first
- Dealt with semantic issues resulting from centralized Services – hundreds of "getCustomerInformation" Services example

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Results

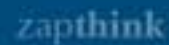


- Increased response times by 10 to 20 times
- Increased throughput by 10 times
- Reduced the percentage of cost for infrastructure and integration from 90% to 65%
- Reduced the time to get data off of mainframe from 3-4 months to a matter of minutes
- Key advantages of Web Services are language and transport independence

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Case Study: E2open

B2B Integration and Process



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Introduction

- Who is E2open?
 - Worldwide B2B Supply Chain Network
 - Member companies include: Acer, Hitachi, IBM, LG Electronics, Lucent Technologies, Matsushita Electronic (Panasonic), Nortel Networks, Seagate Technology, Solectron, Toshiba, Mitsubishi Electronic, Omron, Ricoh, Sanyo, and Sharp
- What problem are they solving
 - How to efficiently connect companies in a supply chain and connect "cross-company industry process"

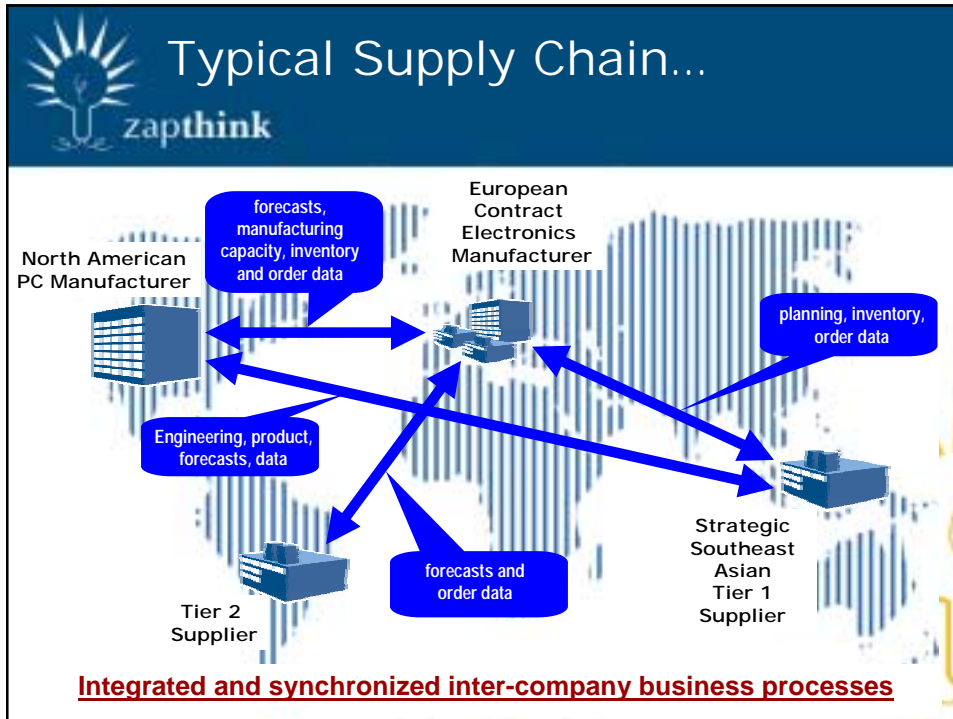
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Framing the Problem

- Pressures on high-tech manufacturing companies:
 - Outsourcing (reduce cost)
 - Globalization (increase supply)
 - Time-to-market (reduce time)
 - Just-in-time manufacturing (reduce inventory)
 - Distributed value chain (satisfy customer)
- Resulting in IT Challenges
 - Integrating across multiple companies
 - Long-lived, multi-step, complex processes
 - Automating manual processes
 - Business semantic issues

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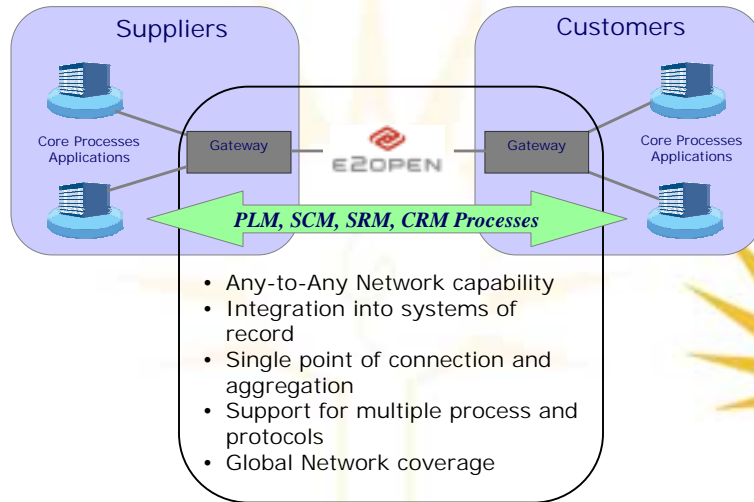
Solution Framework

- Create standards-based collaboration framework leveraging process:
 - B2B process transformation
 - Create external process interfaces at supplier and manufacturer
 - Create a framework by which these processes can be synchronized
 - Standards-based technology infrastructure
 - Use industry standard vocabularies (RosettaNet, etc.)
 - Use standard transport protocols (HTTP, SMTP)
 - Use Registry (UDDI) to decouple the end points

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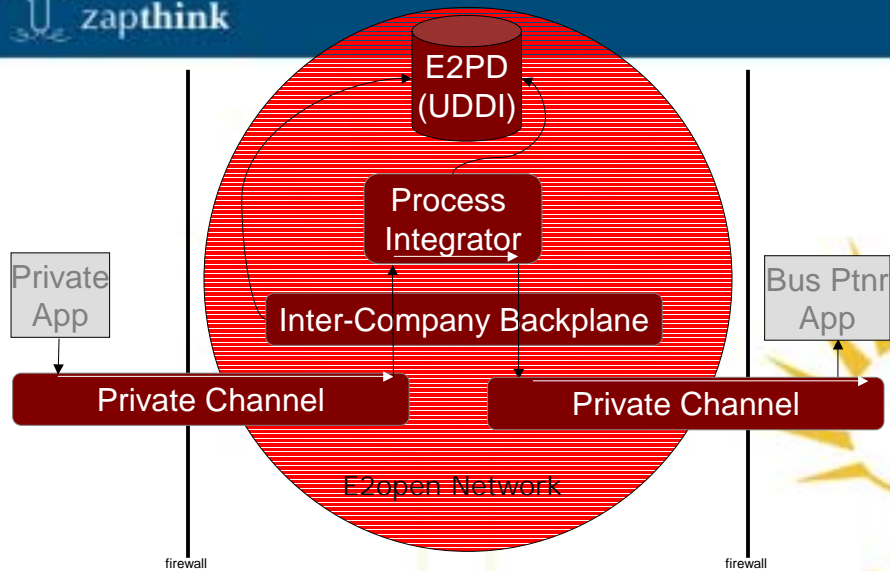
E2open Solution



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E2open Solution Details



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Customer Example: Acer

- Company
 - In the top 10 of Personal Computer manufacturers
 - Annual chip purchases > \$700 million
- Challenge
 - Submitting supply forecasts 4-5 months in advance
 - Suppliers slow to respond
 - Result: forecasts that didn't match sales, inventory problems

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Results: Acer

- Forecast-to-order in real-time
- Reduced inventory dramatically
- Reduced cost of adding new suppliers
- Increased ability to negotiate new supplier relationships

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Customer Example: LG Electronics

- Company
 - One of the largest electronics companies in Korea
- Challenge
 - Wanted faster, more efficient way for collaborative product development
 - Wanted real-time visibility into project status
 - Communication and planning problems lead to product release delays, impacting revenue

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Results: LG Electronics

- Solution: collaborative process design using integrated B2B processes
- Results
 - Development project that usually took 2 weeks took 4 hours
 - One project showed design time reduced from 53 days to 20 days
 - Meetings in real-time
 - Travel costs reduced by tens of thousands of dollars
 - Now capable of extending product design process to third-parties

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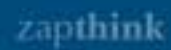


Lessons Learned

- Web Services over the Internet is Viable -- Today
- B2B Integration is about:
 - Choreographing processes
 - Agreeing on business semantics
 - Handling security and reliability issues
 - Making deployment easy
- We don't have to repeat the mistakes of the EDI past

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The Hartford Case Study



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Case Study: Hartford

- Been using standard documents for years: ACORD
- Movement to XML-ized ACORD standards
- Problem: lots of agents – lots of different “standards”
- Dependence on legacy systems

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Case Study: The Hartford

- SO Business Application for insurance agents
- Services handle multiple versions of insurance forms
- SOA handles multiple versions of Services



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Lessons Learned

- Registries can be key to making an SOA work in practice
- SOA != request/response. Document modes of interaction can be more helpful
- Think in terms of abstracted, composite, loosely coupled, asynchronous Services
- Mainframes and legacy system enablement is a key part of the SOA value proposition

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Thank You!

Take Credit Code: OBSCS



ZapThink is an industry analysis firm focused exclusively on XML, Web Services, and Service-Oriented Architecture.



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