



IBM Software Group

# 2004 WDI / WBIC Customer Conference

*Global Business Transformation*

## Migrating to WDI 3.2 on Win2k

**WebSphere.** software

**Lee Edenfield**  
Manager e-Commerce Systems  
Hagemeyer North America, Inc.



 e-business software

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# Objectives

- Who are we?
- Why WDI 3.2? Why Windows? Why DT maps?
- How did we plan to do it?
- What did we actually do?
- Where we are now?
- When will it all end?





Hagemeyer & Co. was established in the former Dutch East Indies (now Indonesia) in 1900. Today, Hagemeyer N.V. is headquartered in Naarden, Netherlands (near Amsterdam). The company has 22,000+ employees serving more than a million customers in 37 countries worldwide.

Hagemeyer North America, Inc. (HNA), A wholly owned subsidiary of Hagemeyer N.V., is a wholesale distributor focusing on business-to-business markets in electrical, safety, and industrial products and services throughout North America. HNA's 4900+ associates serve more than 100,000 customers from approximately 500 locations.



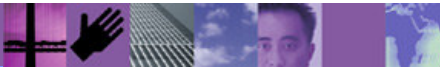
## Our environment when we started

- Hagemeyer acquisitions in the U.S.
  - 1999–2000 Hagemeyer N.V. acquired 4 U.S. companies
- Cameron & Barkley Co. (CamBar) - ~55% of HNA sales
  - OS/390 – in-house ERP – DI 2.1 translator
  - 20%-40% of business transactions EDI
- Vallen Safety Supply – ~35 % of HNA sales
  - AS/400 – in-house ERP – Harbinger TLE translator
  - 20%-30% of business transactions EDI
- Tri-state Electrical Supply – ~8% of HNA sales
  - AIX – package ERP – minimal EDI
- Allied Electrical – ~2% of HNA sales
  - AIX – modified package ERP - No EDI



## Hagemeyer Global Solution ( HGS)

- One ERP – Movex ERP on AS/400 platform
- Multiple instances (3 OR 4) in Europe, Australia, and the U.S.
- “Bolt-on” solutions for:
  - Warehousing/logistics
  - E-Commerce (web)
  - EDI
  - Business intelligence
- Phased migration by Operating Company



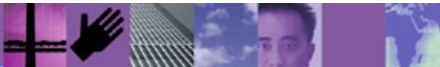
## Major events in the timeline

- 2001
  - Hagemeyer acquisitions in the US, Canada, and Mexico formally combine into Hagemeyer North America, Inc. (HNA)
  - Still operating on separate ERP systems as semi-independent operating companies (OpCos)
  - HNA OpCos sent associates to the Netherlands to participate on Hagemeyer Solution Teams (HST) developing and implementing the Hagemeyer Global Solution (HGS)



## Major events in the timeline (continued...)

- 2002 (1<sup>st</sup> half)
  - EDI HST reported that the HGS for EDI will not satisfy HNA requirements without a lot more work
  - HNA decided to build HNA specific EDI solution
    - HNA does more than twice as much EDI as the rest of Hagemeyer combined. We hoped we could “sell” our solution to the rest of Hagemeyer when we were done.
  - Movex is still the target ERP
- 2002 (2<sup>nd</sup> half)
  - Hagemeyer put the entire HGS project “on hold”
  - HNA decided to migrate all US OpCos to one of our existing legacy systems (project Unite) – ERP target unknown
  - HNA budget for HGS is re-allocated to project Unite



## Major events in the timeline (continued...)

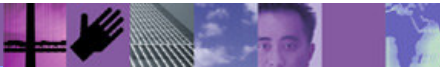
- 2003 (1<sup>st</sup> half)
  - Unite target ERP selected – CamBar system with mods
  - Phased migration by customer segment and geography
  
- 2003 (2<sup>nd</sup> half)
  - Project Unite postponed until 2005
  - Migration to common EDI solution continued
  - Multiple target ERP systems
  - First transactions using the new infrastructure go live
    - New XML based transactions
  - Budget allocated to HGS/Unite project ran out 12/31/03





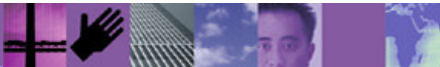
## Major events in the timeline (continued...)

- 2004
  - HNA reorganizes EDI support resources into e-commerce Systems team
  - First migrated transactions go live July 1, 2004
  - Goal
    - Complete Vallen migration in 2004
    - Complete CamBar migration in 2005
    - Unite project may have eliminated the other systems by then



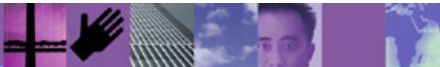
## Why we chose WDI 3.2

- Familiarity – we've been using DI since 1992
- Ease of migration from DI 2.1?
- Ease of future migration?
- IBM Patterns for e-Business
- IBM decision to include DI in WebSphere family
- Performance
- Support for older EDI standards
  - TRADACOMS, ODETTE, UCS, X.12 V2R0
- Support for new XML standards
  - OAGIS BODs, Commerce 1 xCBL, Rosettanet
- MQSeries support



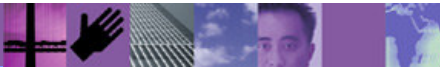
## Why we chose Windows

- Uncertainty about future ERP platform
  - S/390, AS/400, Unix? Some combination?
  - Everything now has a Windows client
- Need to extend the life of our S/390
  - Delayed implementation of replacement system
  - Projected business growth through 2007
- Lack of AIX expertise and experience
- Performance seemed adequate
- Breadth of tools available
- Earlier release of new code
- Low entry cost



## Why we chose Data Transformation maps

- IBM told us to...
  - Easier future migrations
  - Better WebSphere integration
  - Don't have to learn both mappers
- Better XML support
- Any to any (almost)
- Redesigning data formats
  - XML Hagemeyer Business Message (HBM)
  - We were going to re-map everything anyway
- We liked the mapper better.



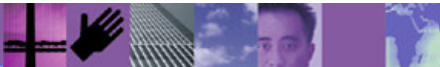
## What we thought we were going to do...

- Create message based integration hub architecture based on IBM Patterns for e-Business
- Normalize all documents to HBM format
- Use MQSeries for message transport
- Use MQSeries Integrator for:
  - message routing
  - “simple” data transformation
  - message archival
- Use WDI for “complex” data transformation
- Use MQSeries Workflow for:
  - End-to-end auditing
  - Long running transaction support



## Major design points

- **Functionality**
  - Must support existing business requirements
  - Must be able to support new business requirements
- **Flexibility**
  - Must be able to easily accommodate changes in the operating environment
- **Performance**
  - Must be able to handle the load
  - Response time requirements are getting shorter
- **Platform independence**
  - See Flexibility and Performance



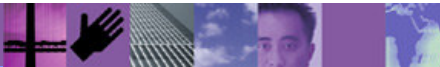
## June 2002 we started to build it...

- Assembled the team
- Loaded software
- Began documenting as-is processes
- Developed HBM formats
- Started building the HNA EDI “bolt-on” for the HGS
  - Target Movex ERP
    - Movex e-Collaborator - XML over MQSeries
  - Support all legacy EDI transactions
  - Consolidate transactions with common trading partners
  - Phased implementation by business subsystem – purchasing and A/P first



## The rules change, but the project survives

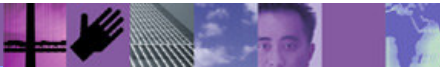
- The project scope changed
  - HGS put on hold – late 2002
  - Project UNITE – target ERP changed
- Phased migration
  - Had to support Vallen ERP system temporarily
  - Target ERP is CamBar system
- Decided to map Vallen EDI to ADF directly
  - Short term need
  - Vallen ADFs are very “EDI-like”
  - fewer Vallen interface changes required
- Continue to develop HBM for CamBar
- Tri-state and Allied put on hold





## The rules change again...

- Project UNITE cancelled late 2003
- CamBar put on hold
- Vallen now longer term need
  - Wish we had mapped to the HBM
- Abandoned WWF
- Started using new architecture to meet new requirements (XML, CSV)
- Introduced WebSphere Application Server (WAS)
  - HTTPs support
  - WSAD
  - Some solution components now built in Java



## So what did we actually build?

- Message based integration hub using MQSeries
- MQ enabled legacy application interfaces
- WMQI used for routing and simple transformation
- Java programs used for utility functions
  - Message archival
  - EDI parser, search tool, comparison tool, router
- WAS used for https transport
- MQSS used for VAN traffic
- WDI used for complex data transformation



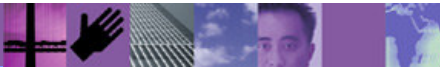
## Challenges we encountered

- ASCII-EBCDIC conversion
  - Packed and zoned decimal fields
  - EDI Segment delimiters
- Record blocking
  - One message per transaction
  - <CR><LF> separators
  - ADF record lengths have to match



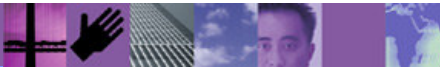
## Challenges we encountered (continued)

- WDI-MQSeries interface
  - Profile setup
  - 8 character queue name limit
  - Logical to physical filename mapping
- DT mapping issues
  - Lack of loop function (XML large text fields)
  - One-to-many transactions (outbound 820)
  - Many-to-one transactions (outbound 850)



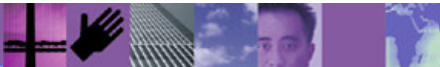
## Challenges we encountered (continued)

- WDI 3.2 in general and the DT mapper in particular are actually new 1<sup>st</sup> version products
  - Many PMRs
  - XML support evolving
  - Transaction store support evolving
  - Differences in how trading partners are handled – TP resolution, map rule selection, transaction store issues
    - Differences from one document type to another
    - Differences from the way it works with S/R maps



## Where are we today?

- We have migrated all Vallen VAN traffic to MQSS
- We have MQ enabled all Vallen EDI application interfaces
- We have developed DT maps for all Vallen transactions and trading partners
- We are currently migrating Vallen trading partners and maps to WDI



## When will it end?

- Vallen migration to WDI 3.2 complete in 2004
- Migrate CamBar to WDI 3.2 in 2005
- New Web site under construction – to be integrated with all the legacy ERPs
- New requirements appear all the time
  - EDI over the web
    - AS1/AS2, HTTPs, SMTP, MQSeries, FTPs,
  - Real-time integration
  - New XML “standards”
  - New ERP in 2007?
- This is a process – there is no end in sight



## Summary

- Work in progress...
- The rules keep changing
- The future is still uncertain
- The architecture is flexible enough to handle change
- Performance is better than expected

