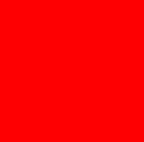


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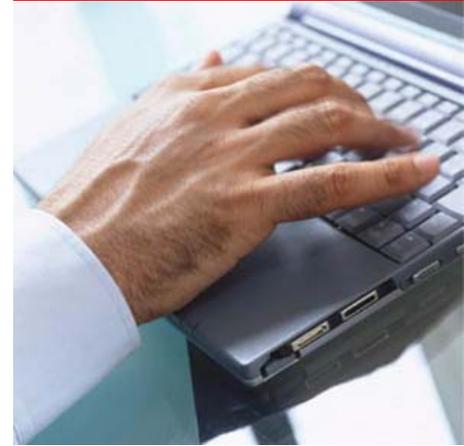
Technology Strategy for 21st Century Water Utilities

Presenter: **Dennis W. Doll**
President & CEO, Middlesex Water Company



Program **Agenda**

- Who we are
- Why we decided to look for a new approach to our technology
- What we learned – and why that convinced us to go with an enterprise approach
- How we expect an enterprise approach to deliver the results we – and you – need



Middlesex Water Profile

- 111 years in the water business
- Provide a full range of regulated and non-regulated water, wastewater and related services
- Listed on NASDAQ Global Select Market under trading symbol MSEX
- Serve customers in NJ and DE, with operating approvals in MD



In 2008, Middlesex Water was named one of the nation's Top 100 Most Trustworthy Publicly Traded Companies by Audit Integrity, Inc., an independent firm.

Middlesex Service Territory Today



What Led Us Toward an Enterprise Solution?

Drivers

- Increasing size and complexity of our business

- ▶ Entered the wastewater business
- ▶ Entered additional states
- ▶ Multiple hand-offs



What Led Us Toward an Enterprise Solution?

Drivers

- Increasing size and complexity of our business processes
- Increasingly stringent regulatory and customer expectations



What's coming that we need to prepare for?

Customers expect as much from their utility as from any other business.

What Led Us Toward an Enterprise Solution?

Drivers

- Increasing size and complexity of our business processes
- Increasingly stringent regulatory and customer expectations
- **Need for significant infrastructure investments**

The EPA estimates about \$500 billion needs to be invested in our nation's water and wastewater infrastructure over the next 20 years.



What Led Us Toward an Enterprise Solution?

Drivers

- Increasing size and complexity of our business processes
- Increasingly stringent regulatory and customer expectations
- Need for significant infrastructure investments
- **Need to compete more effectively for growth**

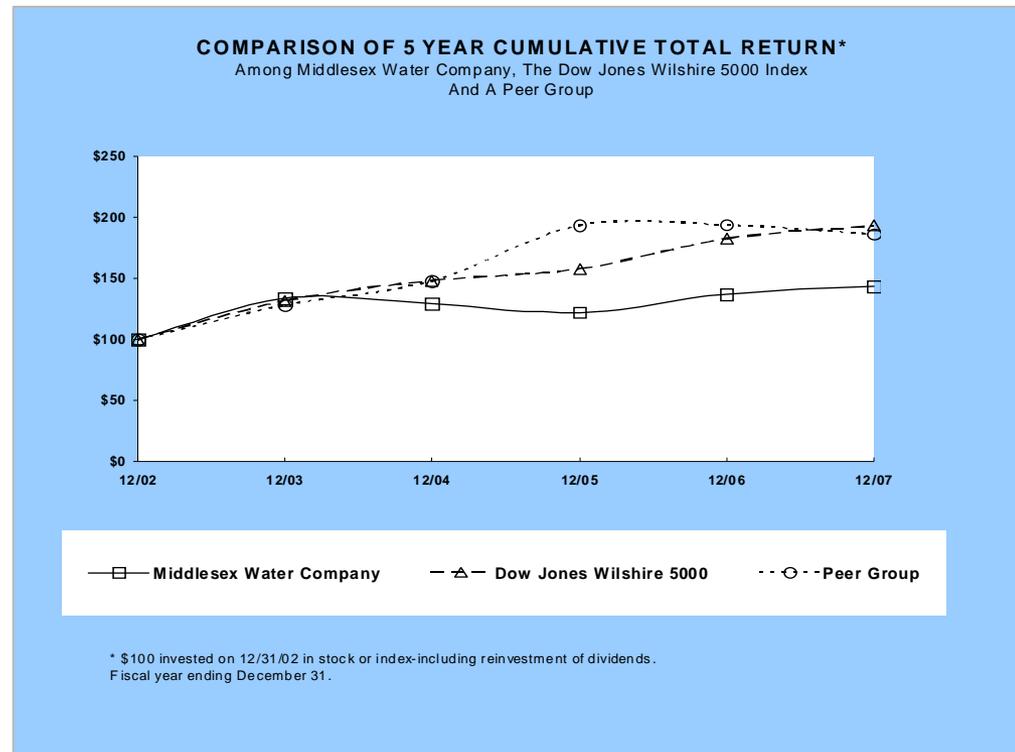
Competing with other investor-owned, as well as municipal entities.



What Led Us Toward an Enterprise Solution?

Drivers

- Increasing size and complexity of our business processes
- Increasingly stringent regulatory and customer expectations
- Need for significant infrastructure investments
- Need to compete more effectively for growth
- **Need to deliver increased shareholder value**



How We Decided What to Change

Discussions with Managers / Staff Showed:

- Silo approach to business processes (*inefficient and redundant handoffs between departments & functions*)
- No “single source of the truth” (*inconsistent and inaccurate data*)
- Redundant data entry (*similar data entered in various places in the company*)
- Data maintained throughout the company (*distrust of anyone else’s data*)
- Over time, technology implemented departmentally to meet departmental needs (*no enterprise view of data or processes*)

How We Decided What to Change

We Wanted:

- Efficient end-to end business processes (*break down the walls and silos, support processes with robust technology*)
- Data integrity (*develop an effective data model and apply discipline*)
- Single point of entry (*enter accurate data once, share with all who need it*)
- Ease of access to data (*eliminate need to maintain redundant records and reports*)
- Complete transparency

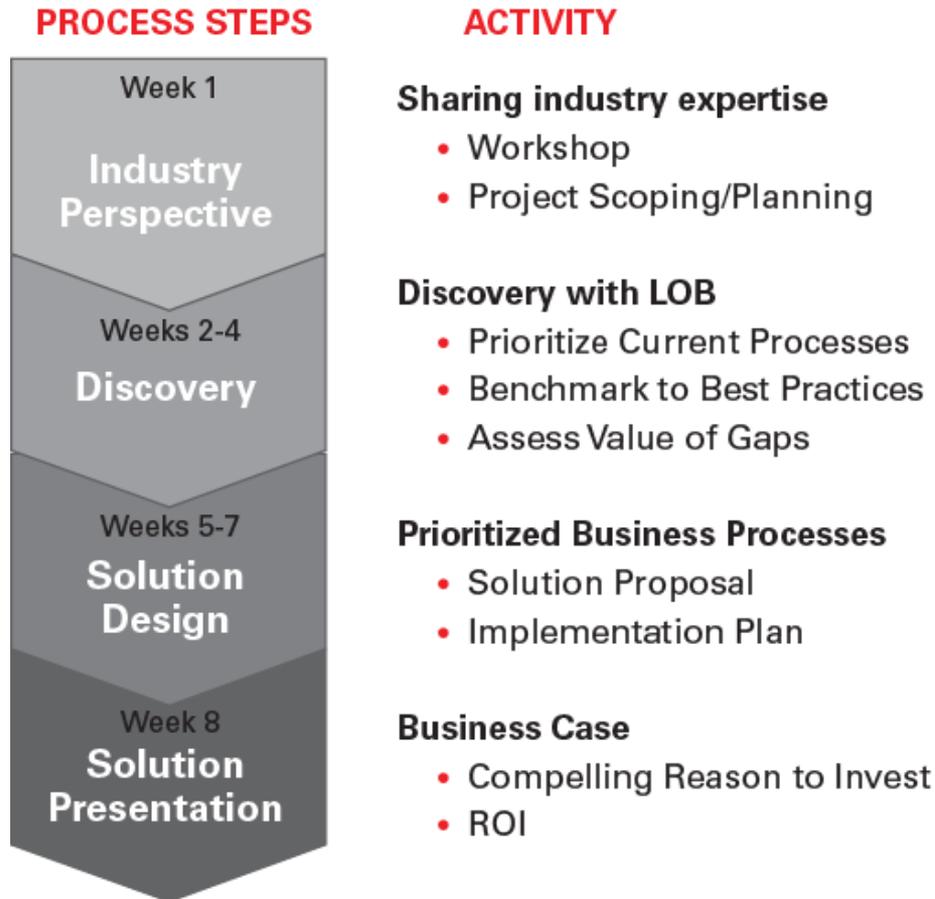
How We Decided What to Change

We Agreed that Our Technology Prevented Us from:

- Adequately focusing on growth and profitability
- Adequately focusing on efficient end-to-end business processes
- Adequately focusing on building our skills
 - Too much time spent on redundant and inefficient, non value-added activities
- Your staff can probably make a similar list today. They know what's wrong. They just don't have the means to fix it.

How We Decided What to Change

Oracle Insight Program

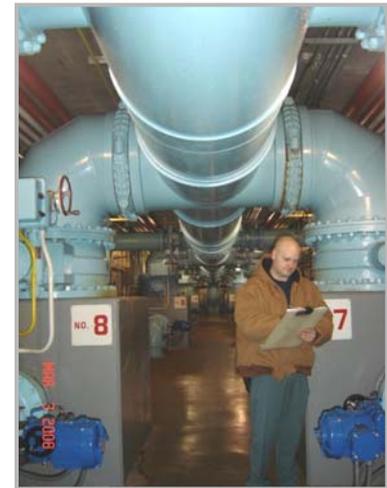


- ▶ No budget for “Big Five” consulting engagement.
- ▶ We understood the problems but needed external experts to organize our options.

How We Decided What to Change

We Consulted Internal and External Technology Experts, Who Agreed that:

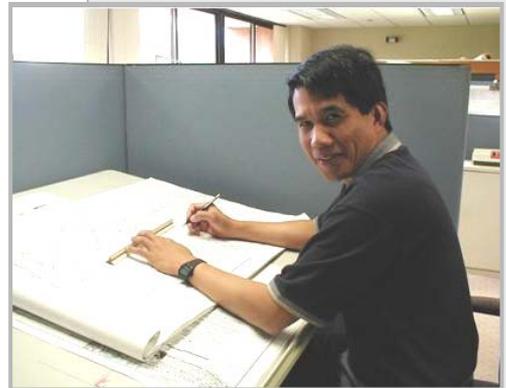
- The technology is only as effective at delivering value as the processes it supports (*automate a bad process and you get a bad result*)
- Pick the right solution (*the technology needs to address the complexities of the business and the nuances of the industry*)
- The process is the business, the technology is the tool (*the technology supports best practices in business process in an integrated fashion*)



How We Decided What to Change

We Evaluated the Potential Benefits of Integrated Technology

- Procurement
- Link between customer contacts and field work
- Stakeholder Expectations
- Relationship between technology integration and our goal for full-service delivery



Benefits to Integration

Improve Procurement

- Complete enterprise-wide automation of manual requisition, approval, receipt and payment process for both goods and services
- Transparency of enterprise-wide procurement activities identifies opportunities for consistent pricing, volume discounts, vendor quality assessment, integration with projects, work orders, general ledger, etc.

Benefits to Integration

Link Customer Contacts to Field Work

- Service requests received, scheduled and dispatched efficiently
- Capture all costs (labor, materials, overhead, vendors)
- Feedback loop – is the customer happy with the result?
- Track performance metrics and instill accountability for results
- Identify opportunities to improve



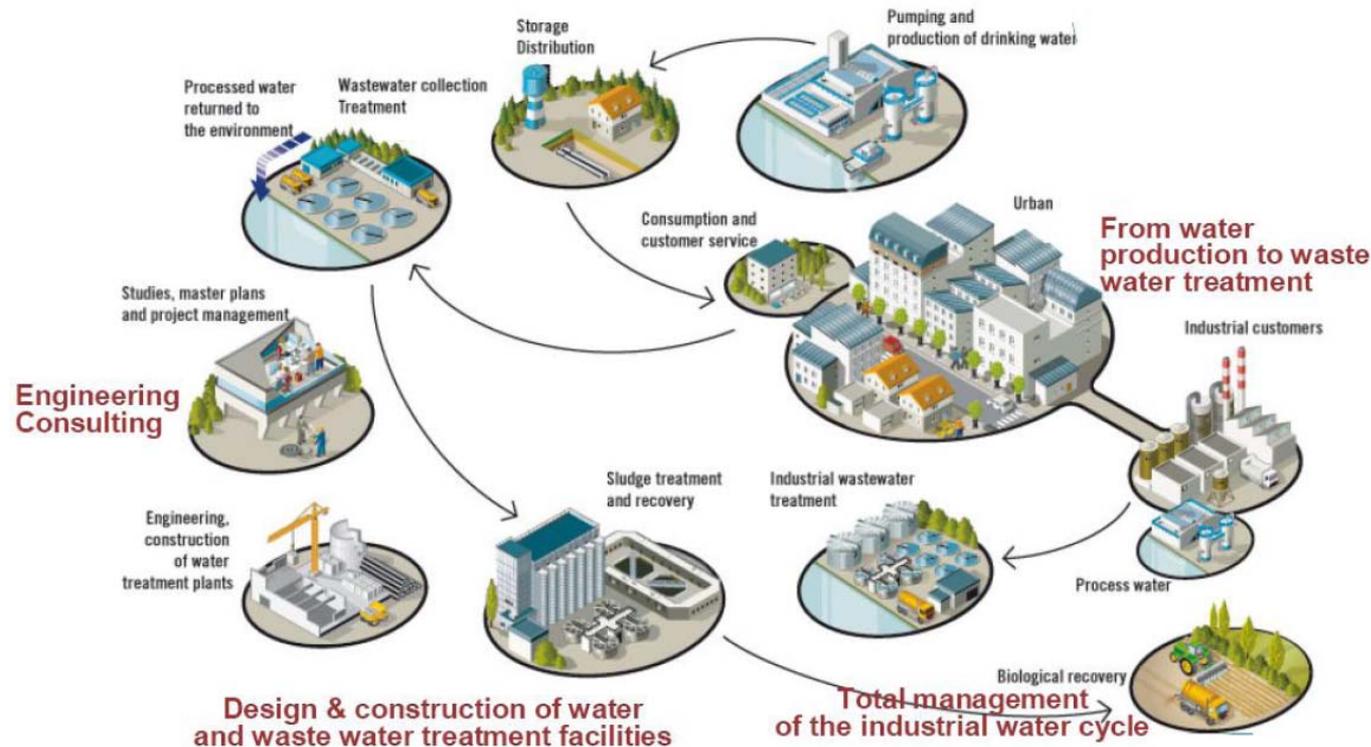
Benefits to Integration

Fulfill Stakeholder Expectations

- Customers
 - Increasing levels of service delivery
 - Reasonable pricing
 - Continuously increasing quality of products & services
- Shareholders/Owners
 - Increasing financial performance
- Employees
 - A safe and respectful working environment
 - Opportunity for growth and increased earnings
- Regulators
 - Absolute compliance with laws and regulations

Benefits to Integration

Deliver a Full-Service Approach



- Water Production, Treatment & Distribution
- Wastewater Collection & Treatment
- Full Service Contract Operations
- Project Management Services
- Design/Build/Own/Operate Assets
- Water/Wastewater System Maintenance
- Public/Private Partnerships
- Complementary Products and Services

Steps to Achieve Change

We Created a Business Case

“It’s not about implementing cutting edge technology – it’s about delivering business value”

- A business case based on ROI is useful, but hard to do *(need to measure net revenue/cost impact across the enterprise)*
- Also hard to assess intangible benefits like “quality”
- Having good, meaningful performance metrics helps *(e.g. decrease # of customer complaints by 20%)*
- The benefit for our company is as much about avoiding future costs as it is about growing revenues and reducing current costs *(growth can be supported more cost-effectively)*

Steps to Achieve Change

We Evaluated Vendor Proposals

- Many similarities in software functionality but different approaches and costs to both implementation and support
- Side-by-side comparison of all aspects was the goal but, was not always possible
- The “qualitative” aspect was as important as the “quantitative” – will they follow-through and do what they promised?

Major Factors in Ultimate Decision

- Were most of our evaluation criteria met to an acceptable level of satisfaction?
- Chemistry and trust played a role

Evaluation Criteria

- The software's "fit" with our industry
- Consultant's knowledge of our industry and business processes
- Flexibility for data conversion (bringing history)
- Flexibility in the project timetable and work plan given our ability to dedicate resources
- Cost of software, hardware and consulting
- Cost and quality of training and ongoing support
- Site visits, reference checks, customer testimonials

What We Chose

An Integrated Platform from Oracle

- **Mission-Critical Applications from Oracle Utilities:**
 - Customer Care and Billing
 - Work and Asset Management
 - Mobile Workforce Management
 - Business Intelligence
- **Business Solutions from Oracle's eBusiness Suite**
 - Financials
 - HR
 - Projects
- **Oracle Technology**
 - Database

Additional Steps

Stakeholder Education

- Staff
 - Participated in conclusion that change is necessary
 - Frequent communication about plans and progress
 - Building excitement about the possibilities
- Board
 - Open and honest dialogue about limitations of current processes and systems
 - Commitment by the management team to deliver business value
- Regulators
 - What are we doing for the customer?
- Shareholders/Owners
 - Turn the investment into growth and improved financial performance

Additional Steps

Prioritizing Implementation

- Sequencing of integration points – a building block approach to supporting the business processes
- Realistic assessment of our organization’s ability to “get it done” recognizing we are trying to improve the business at the same time we are trying to run the business
- Capture as much business value as we can as quickly as we can



Using Integrated Applications As a Foundation for Results Building New Business Processes

- Business processes are a series of workflows that cut across departments, functions, companies, etc. Since the processes are integrated, effective execution of the processes requires the tools that support them to be integrated as well



Using Integrated Applications As a Foundation for Results

Examples of Integrated Business Processes

- Customer inquiry resulting in a service order for fieldwork
- Extending service to new customers through new construction
- Operation of water and wastewater treatment facilities
- Capturing time and related costs on projects, work orders and other cost objects and ultimately paying employees
- Procurement of goods and services



Using Integrated Applications As a Foundation for Results Integrated Business Intelligence

- Today we have lots of data but much of it does not get translated into information
- High quality data that can be manipulated into information to run and improve the business is invaluable
- “Single version of the truth” – if you ask five people how many customers you have they should all give the same answer



Lessons Learned

Leadership and Change Management Are Essential

- This is not an IT project, it's a business project
- Don't underestimate level of resistance to change
- Absence of complete executive-level support significantly increases risk of failure
- Most projects that fall short of their expectations are the result of bad management, not bad technology – the technology will do what it's designed to do
- Keep employees informed and involved all along the way
- Celebrate successful completion of milestones

Lessons Learned

Integrated Technology Helps Water Utilities Solve Pressing Problems

- It cuts costs, letting us dedicate more resources to infrastructure
- It lets our staff be more efficient and helps them improve
- It populates the integrated information we need to get to customers:
 - What is my bill history and how can I control my bills?
 - What's happening in my neighborhood and how will it affect my service?
 - Where is my service technician?
- It gives us consolidated intelligence to:
- Run our business well
- Demonstrate that we're doing so



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