

# **Low Cost of Ownership at General Mills with Microsoft .NET**

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Information Systems Operations  
General Mills, Inc



# Agenda

Company Profile

Keeping Costs Low

Challenge: Empower Retail Sales

.NET Solutions

Components of the .NET Solution

Challenge: Pillsbury Merger

HP Blade Server

Next Steps in .NET Implementation

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GENERAL MILLS



# Company Profile

General Mills annual net sales \$10.8 billion

Markets a wide range of highly trusted food brands

Added Pillsbury's businesses to our portfolio  
in 2001

Ranked "one of the "Best Places to Work in IT"  
by ComputerWorld

Maintains very low cost for IT infrastructure



Company Profile

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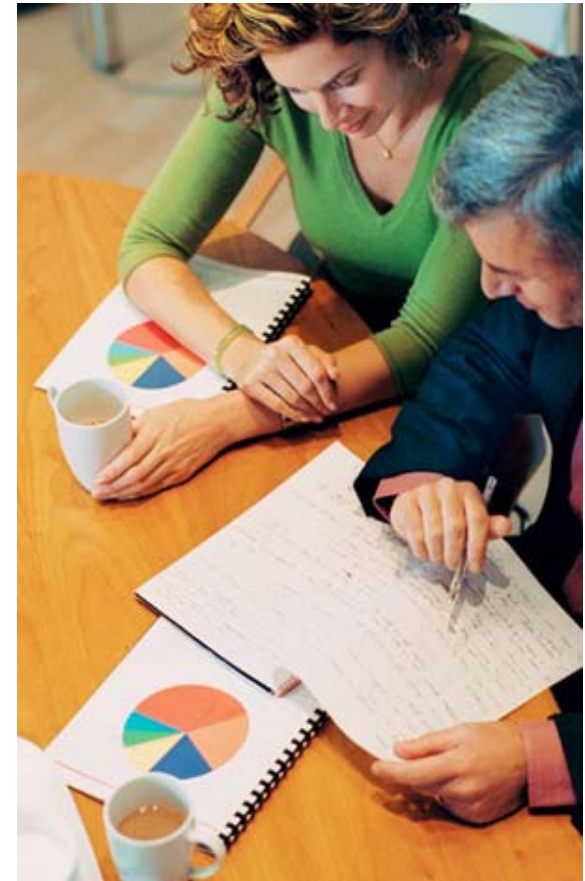
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# Keeping Costs Low

General Mills is extremely centralized

- One sales force
- One supply chain operation
- One ERP system for entire company

# Keeping Costs Low

Strong partnerships with technology leaders affords an opportunity to work with latest technology early, and reduce costs early

- Microsoft and HP are key partners
- Microsoft has the same quality standards that General Mills does for testing applications
- Excellent success using Microsoft software applications with HP standards based servers

# Keeping Costs Low

General Mills Inc. IT costs are less than half of similar large consumer goods companies

(Based on percentage of sales)



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# The Business Challenge for Retail

Become the leader among  
Consumer Packaged Goods companies

Support the sales force with technology  
they can use in the stores

Centralize retail execution for efficiency  
and effectiveness

# HP Services and Storage

- Collaborated to create customized .NET Application
- Design, development and documentation
- Rapid knowledge transfer to General Mills
- SAN storage with Windows 2000 for web
- High availability and disaster recovery web requirements
- Direct attached storage for everything else

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# .NET Solution Topology



**Presentation**  
The application executes in this environment

**ActiveSync**  
Is use to move files between the HP iPAQ and the Retail Rep's PC



**Retail Rep's PC**  
Connects to the General Mills Intranet to upload and download the data



**Intranet**



**HP Blade Server**  
This web server hosts an ActiveServer application used to query and update the database



**Database**



**Sales and Marketing's PC**  
General Mills can analyze the information in the database, make decisions quickly, and provide the Retail Rep with the latest information

# Microsoft .NET Solution

## HP iPAQ handheld PC for Category Management application

- Extremely well-designed handheld PC
- Easy for retail reps to gather information in the stores
- Info about stores is automatically uploaded to web servers
- Reps receive timely store information and business alerts
- Corporate receives information previously unavailable from the Retail Reps

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# .NET Development Environment

## Microsoft Visual Studio .NET

- Visual Basic.Net using Smart Device Extensions
- Fast implementation using Visual Basic with .NET
  - Rich application prototyped within month and ½
  - Limited staff devoted to project – maximum 3 people
- Debug/Deploy to the device or an emulator

## No server interaction

- .NET Compact Framework is installed on each device

XML is used to pass all data



# Application Architecture

## 3 Layers

- Presentation Layer
  - Made of standard Windows forms and controls
  - User interacts with these elements
- Business Layer
  - Made up of a set of classes
  - Classes provide method and properties
- Data Layer
  - Handles all interaction with XML data sources
  - XML files store the data
  - Classes perform most of the tasks the user requests
  - Classes provide methods and properties for data access and data manipulation

# Synchronizing the Data

## Process

- User sets the iPAQ in the cradle
- User logs into the intranet and navigates to the data synchronization page
- User clicks the button for data synchronization
- An ActiveX Control on the page is used and XML files are retrieved from the iPAQ and uploaded to the HP ProLiant BL20p 2-processor web server
- New XML files are downloaded to the iPAQ by querying the database

# Tools Used for Development

Microsoft Visual Studio .Net  
and the .Net Compact Framework

Microsoft Visual Source Safe

Microsoft Visio

Microsoft Office Products

Microsoft Windows Messenger

# Results and Benefits

Quality and quantity of information transferred between sales force and corporate is much higher

Substantial productivity gain: New process requires 1/5 the time it used to take to gather the same information

.NET makes applications available on any device, anywhere

Fast information transfer enables better business decisions

Prepared for the future – when tablet computers become available, this .NET application will work on them

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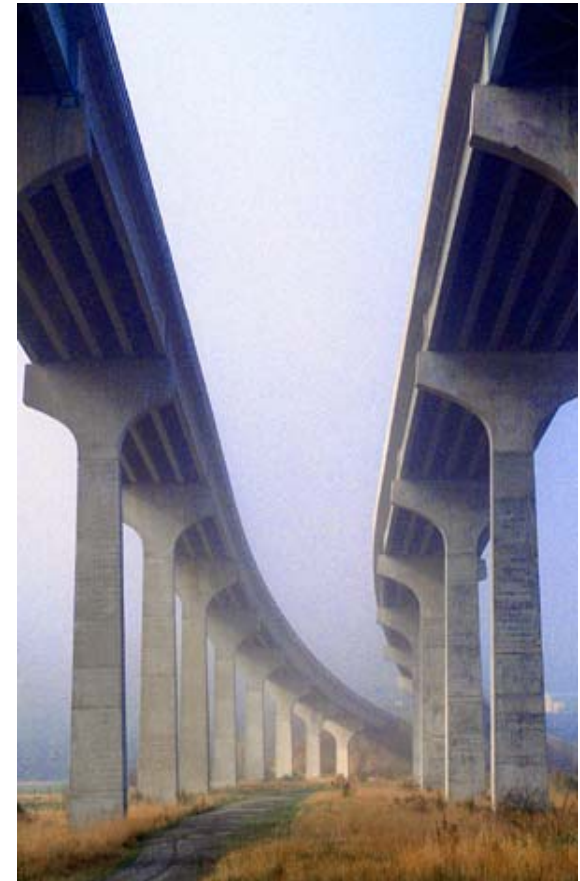
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# Business Challenge – Merger

Efficient integration of Pillsbury into General Mills infrastructure

- Revenues doubled
- Workforce doubled
- Portfolio of leading brands expanded
- Increased number of servers
  - issues of space, power and maintenance
- Worldwide website consolidation to one web server farm
- Messaging migration from Lotus Notes to Exchange 2000

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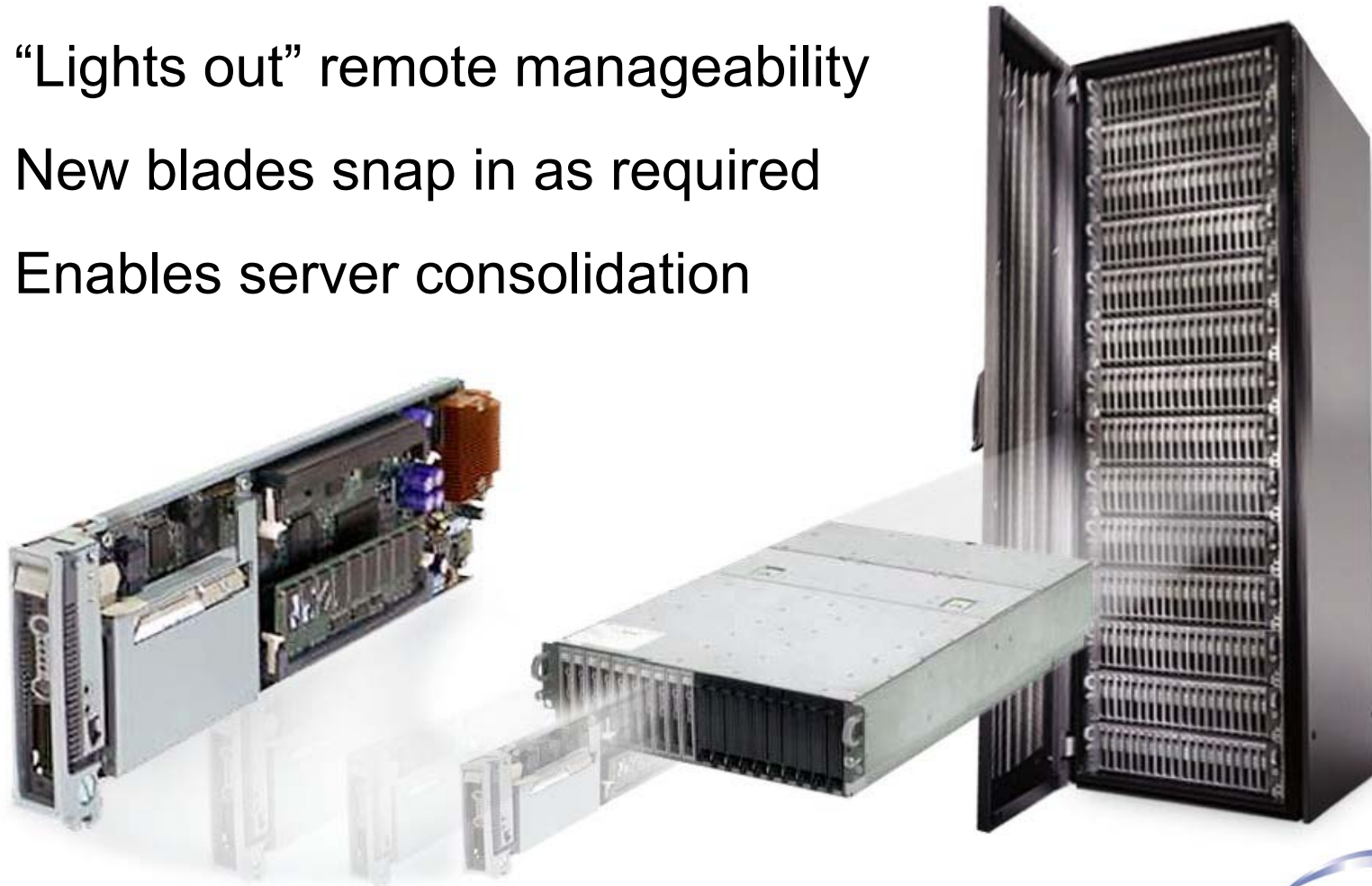
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# Adopting the HP Blade Server

Blade server architecture for the enterprise

- “Lights out” remote manageability
- New blades snap in as required
- Enables server consolidation





# HP Blade Server Advantages for General Mills

No need to buy every single component of a new server when there is an upgrade

No need to pull one entire server out and replace it with another

Blade servers are ideal for web farm

Lights-out remote manageability

High fault tolerance

# Results of HP ProLiant BL 2-processor Blade Server Test at General Mills

Servers save considerable space in the computer room

High savings expectations from improved manageability

Extremely reliable and scalable

Adaptability allows mixture of slow and fast processors

Added 200 HP ProLiant servers in the last 6 months  
without the need for additional staff

General Mills anticipates that most servers  
will be replaced by HP Blade Servers



# Ongoing Services From HP

CarePaq™ services include:

- Warranty extension
- Installation
- Hardware service
- Software
- Warranty upgrades on all servers

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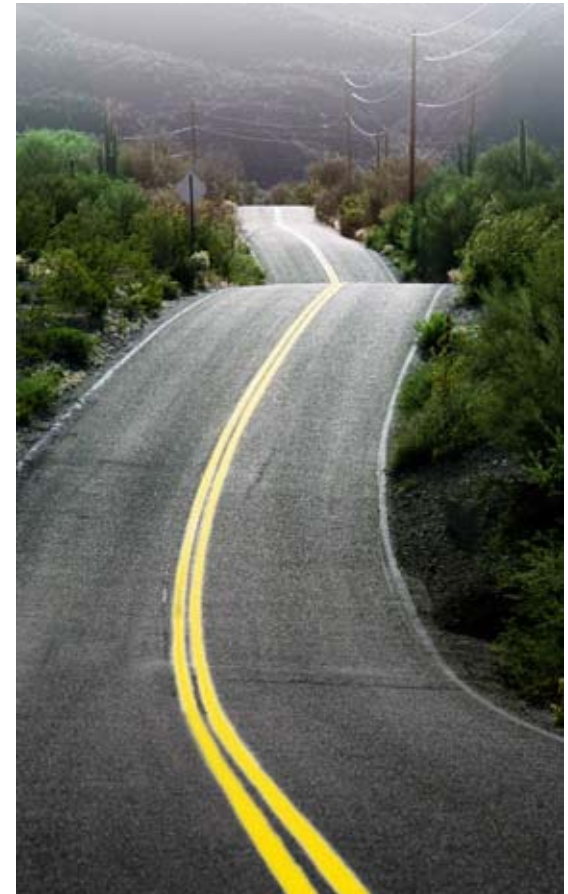
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# Next Steps in .NET Implementation

Creating .NET framework for:

- Application development

.NET Web Services for:

- User authentication
- Data access
- Other common development services

Rollout of new applications for retail sales staff

# Looking Ahead

*"Partnering with the strong technology leadership of HP and Microsoft keeps our costs extremely low and our benefits high.*

*It gives General Mills the opportunity to stay involved from the very beginning of the life cycle with the latest leading-edge industry standard technology solutions.*

*This affords us a great competitive advantage and improves the bottom line."*

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