

# A MitemView Customer Reference

## Solution Overview

### Industry

Consumer Electronics

### Application

Electronic Commerce Application for Parts and Accessories Ordering

### Business Solution

Parts and accessory application providing real time pricing, availability and order entry over the worldwide web.

### Architecture

Web based solution with high performance real time access through multiple simultaneous asynchronous non-blocking sessions to IBM mainframe based parts, inventory and order entry application.

### Products and Services

Compaq Proliant 5000, 4 - 200 MHz processors  
 Microsoft (IIS) Internet Information Server 3.0 with Active Server Pages  
 Microsoft Front Page, HTML generator MitemWeb 1.0  
 Microsoft Visual Basic 5.0  
 NT 4.0  
 Oracle Database 7.3  
 First USA Bank credit card verification service

### Benefits

- Leveraged existing mainframe processes
- Real time delivery of inventory & price information
- Reduced complexity of order process

Panasonic Services Company (PASC) is a wholly owned operating company of Matsushita Electric Corporation of America (MECA) based in Secaucus, New Jersey. MECA is the North American arm of Matsushita Electric Industrial Co. Ltd., Osaka, Japan.

Panasonic, the services sector of the \$7.3 Billion MECA, is responsible for all Panasonic, Technics or Quasar products distributed in North America.

## Business Problem & Objective

Panasonic's web page, "Panasonic Online," which operates using Microsoft's IIS, publishes a variety of informational topics including product promotions, special events, news, customer support, and product catalogs. In October 1996, Panasonic Services was given the directive by Panasonic Consumer Electronics to enable consumer purchases of products over the Internet by April 1997. A significant constraint in designing a web based system was the extensive inventory and parts ordering application which resided on an IBM mainframe. These applications provide inventory information including availability, substitutions, and pricing. Panasonic felt that it was essential to find a technical solution

which would integrate with Panasonic's Home Page and provide very high speed real time access to the Vision System. Peter Schepis, Group Manager of MIS commissioned a technology team to identify and evaluate tools and architecture which could deliver the project objectives.

In order to provide electronic commerce, Panasonic needed an application which produced product pricing, availability, substitutions and direct purchasing on the internet while allowing real time access to the data residing on the mainframe. In developing this solution, security of their production mainframe application was a high concern.

## Technical Objectives

The Panasonic Electronic Commerce Application had the following technical requirements:

- Support of a high number of simultaneous, concurrent browser sessions
- Support of a multiprocessor server environment
- Secure mainframe access using Secure Socket Layer (SSL) certification which incorporates security software from RSA and certificates from VeriSign
- Coexistence with IIS and Active Server Pages
- Ability to recognize inappropriate host states and error messages, and report those via email
- Easily maintained and upgraded
- Execute as a service under NT 4.0
- Design easy-to-use Web pages
- Support for dynamic HTML pages

## Business Objectives

- Real time access to parts and accessories inventory by customers and dealers
- Simple procedures for fulfilling customer orders
- Rapid implementation (6 months or less)
- Improved customer service through an easy-to-use application
- Reduced customer telephone inquiries
- Secure credit card environment over the Internet
- Enhanced customer exposure to Panasonic's services
- Leveraged Panasonic's huge investment in existing mainframe based order processing, fulfillment and inventory systems

## Panasonic Parts and Accessories Ordering <http://www.pasc.panasonic.com>

**Panasonic Online**  
 (what's new • product catalog • customer support • our company)

**Panasonic Technics Quasar Parts & Accessories**

### Shopping Basket Contents

Part Number	Description	Unit Price	Quantity	Ext. Price	Comments
PQJA212M	CORD, HANDSET	7.82	1	7.82	Back Ordered ETA: 08/14/97
KX-FA132	FILM & CARTRIDGE / 656FT.	49.95	1	49.95	
PFZEF1050M	PAPER CASSETTE ASSEMBLY	39.95	1	39.95	
PQPCR2032H09	LITHIUM BATTERY	3.64	2	7.28	Back Ordered ETA: 08/15/97
PQMH10243Z	ANGLE	2.83	2	5.66	
EXCEMT222D	FILTER	1.96	1	1.96	
SubTotal				152.57	

The above packing slip shows the availability for the parts you have ordered. To finalize our order, click on the **Enter Personal Info** button.  
 You may also adjust the quantities on your order. If you wish to delete a line, enter a blank quantity or a quantity of 0. Then press the **Verify Availability** button again to have the system recheck availability.  
 If you wish to add more parts to your order, click on the **Select More Parts** button.  
 If you do not wish to place an order at this time, simply leave this page.

back to  
**Panasonic Technics Quasar Parts & Accessories**

figure 1

*Panasonic spent years developing an efficient order processing/inventory system. Accessing that data reliably and with high performance was critical - MitemWeb made that possible.*

Peter Schepis  
Group Manager  
Panasonic Services Co.

*There have been 2 instances where, because of changes on the mainframe, we had to make changes to the [MitemWeb] resource file. In the first instance, the system sent an email message to me with a snapshot of what we had missed. Within 15 - 20 minutes, the fix was made and we were up and running. In the second instance, Panasonic changed the navigation of the mainframe application. Within 4 hours, I was able to put everything in place so that when the turnover happened, MitemWeb was up and running without incident.*

Charles Alexander  
Applications Specialist II  
Panasonic Services Co.

## For more information

about MitemWeb, please call  
1-800-82-MITEM E.S.T.  
or visit our home page  
<http://www.mitem.com>

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## Technology Evaluation / Selection

The project team evaluated a number of technologies including Salvo from Simware, Attachmate, and IBM's Internet Gateway. Panasonic selected MitemWeb as the technology for their web application.

## Panasonic Online

All requests in the Parts and Accessories Ordering System are initiated by a call from either the Netscape or Microsoft Internet Explorer browser. All requests pass through the Raptor Firewall to the NT 4.0 Web Server. Panasonic has configured 3 IP ports or sockets on the NT server supporting: HTTP on the Microsoft Internet Information Server (IIS), MitemWeb, and Secure Socket Layer. The socket utilized is determined by the process being used and is controlled by an Active Server Page (ASP) (see figure 2).

Once a customer enters a model number on the Parts Ordering page of "Panasonic Online," the NT 4.0 Oracle Application Server queries a 1.2 million record cross reference file to return to the browser all parts associated with the specific model entered (i.e. a Panasonic video CamCorder has 987 parts). The customer then selects one or more parts which are added to their electronic shopping basket. During this interactive process, the customer may add or delete any part from the shopping basket.

Customers have the ability to perform a real time check on availability at any time. To accomplish this, the contents of the shopping basket are passed through the MitemWeb application to determine their status. "This process was critical," said Larry Mason, Manager, Systems Support Services. "It was important that our customers could check parts availability immediately rather than to wait until the end of the process. We needed quick and accurate access to the inventory data real time." The inventory system determines whether a part is available, has a new replacement, or is backordered. At that point, an HTML table is created and passed back to the browser with final parts information including substitutions and expected time of arrival of backordered parts. Once the part selection process is complete, the customer

## Parts & Accessories Ordering Architecture

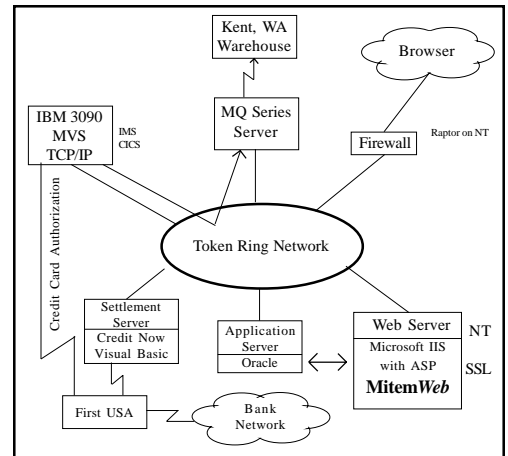


figure 2

enters shipping and credit card information which is passed through MitemWeb using Secure Socket Layer to verify zipcode consistency with the city and state entered. The security layer also insures that all credit card information is properly encrypted. All parts & accessories are totaled and one final check of the mainframe for quantity available is performed before committing the transaction. All appropriate sales taxes are calculated based on the city, state and zip and added to the order. Simultaneously, a credit card verification is processed utilizing a connection with First USA. If the credit card is accepted, an invoice is produced (HTML) and the invoice total including shipping is sent to the browser with an email address and an 800 number for questions or comments.

At shipment, the Kent, WA distribution center sends a message back to the mainframe in Secaucus, NJ and a settlement record is created and batched to First USA. The funds are then electronically transferred the following day.

## Results

Panasonic, Technics & Quasar customers are now able to purchase parts and accessories online, real time. "We could not have completed this application in such a short period of time without using MitemWeb. We are seeing a weekly increase in use as customers have become aware of the technology and are taking advantage of it," said Alexander.

*Panasonic Services Company*