

**Situation**

Globally, banking customers expect swift and easy access to funds and services, be it in a branch, or connecting remotely through a banking kiosk or Internet. Regardless of the delivery channel (electronic or traditional), customers demand a seamless and efficient banking experience throughout the day, irrespective of the geographical location. Bank Muscat, Oman’s largest bank, faced similar challenges and wanted to provide their customers with a rich banking experience in order to expand their business. The first steps towards this goal were to:

- A. Migrate their legacy Core banking application (MIE) to BAS
- B. Integrate the Core banking application with ATM Controller, Call Center, Self Service Kiosk (SSKK) and Trade Finance Server

**Strategy**

To achieve the said milestone, BCT offered to provide a quick, cost effective solution to help Bank Muscat reduce time-to-market and TCO (through automated application assembly). BCT’s BPMS framework is standards-based, providing a single window interface to design, develop, deploy and integrate enterprise applications. Having taken it further from an initial proof-of-concept cum pilot study, Bank Muscat was fully satisfied with BPMS strengths and capabilities.

**Solution**

Developing and Implementing Inter-System Message Processor (ISMP) for Bank Muscat required weaving a common thread between the various channels (viz. ATM, Kiosks, Call Center, Branch and Internet Banking) and thereby building a Integrated Channel Manager (ICM). BCT provides a switch to validate and route messages from Bank Muscat’s delivery channels to its back-end applications. ISMP was developed to design, build, test, and deliver an integrated IT solution that enables Bank Muscat to integrate with:

- 1) MIE: Bank Muscat’s existing MIE (Unix-based) core banking system; and
- 2) BAS (Branch Automation System): Bank Muscat’s new core application
- 3) Integrated Channel Manager (ICMR) - CR2

- 4) ATM Controller (Sparrow), Call Center (CLCR), Self Service Kiosk (SSKK), Trade Finance Server (TISR) and Internet Banking

The integration of BPMS with the rest of the Bank Muscat modules allows the bank to decouple its back-end with its delivery channels. This also facilitates the bank’s migration process, and reduces the complexity arising from the multiple back-end systems. ISMP has the capability to seamlessly integrate to existing back-office systems.

**Solution Overview**

**Company**

Bank Muscat

**Industry**

Banking Services

**Profile**

Bank Muscat, Oman’s largest bank, offers a wide range of financial products and advisory services to individuals, corporate clients, small and medium-sized businesses, government agencies and institutions. It is acknowledged as the leading provider of value-added banking services in Oman.

**Business Situation**

Bank Muscat has been continually evaluating new business opportunities with a wide and prudent distribution of banking portfolios in retail, corporate and investment banking segments

**Solution**

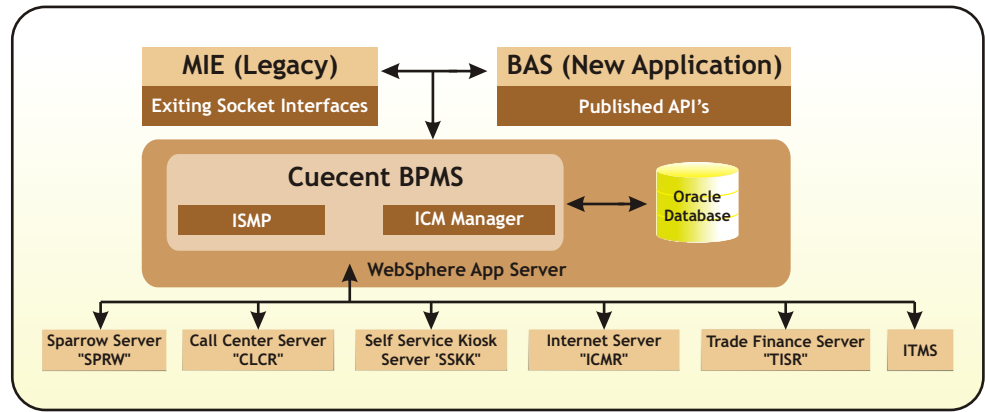
Bank Muscat provides services consistently across multiple delivery channels using Cuecent Integrated Channel Manager (ICM), built on Bahwan CyberTek’s Cuecent BPMS.

**Benefits**

- Integrates the banking application with multiple delivery channels
- 100% uptime
- Handles any number of transactions
- Saves time and money
- Reduced Complexity

**Software**

- Cuecent Business Process Management System (BPMS)
- WebSphere
- Oracle
- Linux Advance Server



BCT BPMS is unique, web-based, workflow enabled Enterprise class solution that quickly delivers adaptive, robust enterprise application at reduced time, cost and effort. It is based upon the innovative Component Assembly Architecture (CAA) that provides a unified standard-based, J2EE compliant application assembly environment.

**ISMP involves the following:**

- 1) Receives messages from ATM controller - "Sparrow" (SPRW), Call Center (CLCR), Self Service Kiosk (SSKK), Integrated Channel Manager (ICMR) and Trade Finance (TISR)
- 2) Performs Message Analysis and Routing
  - a. Analyzes and routes messages to BAS in a message format acceptable by BAS, if the customer branch is migrated
  - b. Analyzes and routes messages to MIE, if the customer branch is not migrated
  - c. Handles instances where message will be routed to both MIE and BAS
- 3) Receives and responds to replies from MIE or BAS to respective source applications

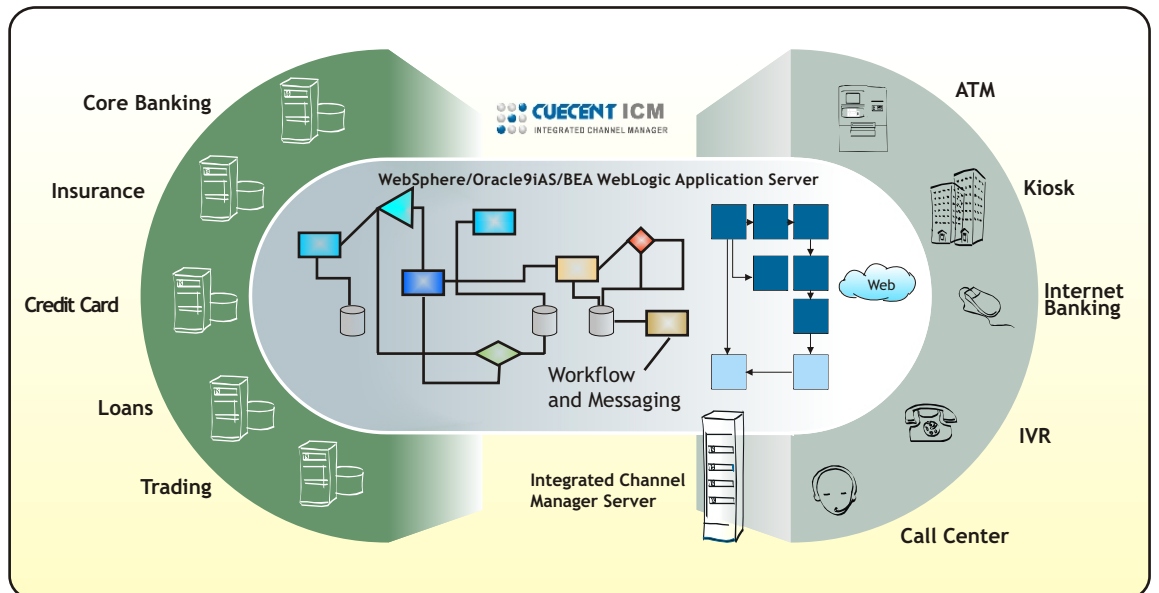
**Integration with Integrated Channel Manager (ICMR)**

- 1) ISMP operates under a restrictive environment with BAS. The developed ISMP is used for processing messages from non-standard applications
- 2) Any new application that would require message manipulation is first routed to ISMP before forwarding to BAS

**Technology Overview**

The ICM-ISMP solutions are built on Bahwan CyberTek's platform Cuecent BPMS (Business Process management System). Cuecent BPMS is based on J2EE specifications and has various business process development tools in an Integrated Environment.

Cuecent BPMS runs on Linux Advance Server 2.1 with Websphere 5.1 as the Application Server. The choice of Websphere was being made keeping in mind the high volume of transactions that ISMP has to handle from various delivery channels and the high availability of ISMP (as ISMP is the Heart of the entire bank being the core middle layer between the Delivery Channels and the Back Office Systems). To standardize the flow of information, BPMS uses Queues from MQ-Series internally. Moreso while taking into account the future



development roadmap of Bank Muscat, wherein MQ-Series can be used as the communication layer between multiple systems. BCT recommended WebSphere to Bank Muscat as the core platform to run its Integrated Channel Manager.

### Benefits

- **Integrating multiple delivery channels**

The solution allows Bank Muscat to manage their services consistently and economically across multiple delivery channels and branches to ensure customer acquisition, satisfaction, & higher retention.

- **Round the clock availability**

Using BPMS solution, Bank Muscat will be able to provide non-stop service across its branch network and transactions across ATM terminals with zero downtime.

- **Reduced Investments**

Though huge investments have gone into the back-office systems and applications, BCT has ensured investment protection by leveraging the legacy systems and making it co-exist with state-of-the-art Technology to run the Enterprise banking functions profitably.

- **Handles any number of transactions**

The solution is robust & has the capability to handle voluminous transactions cutting across multiple delivery channels. This was achieved only by leveraging the WebSphere application server platform that manages the load across the network

- **Reduced Complexity during Future Additions**

New channels are easily deployed into the existing systems by simply adding the appropriate gateway.

### About Bahwan CyberTek

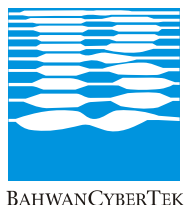
Bahwan CyberTek (BCT) is a, CMM level 5 assessed, software products and solutions organization and is one of the most successful global IT Consulting & Implementations Company that the Middle East region has ever produced. BCT is part of the billion-dollar Bahwan Group of Oman and has established itself as a truly global player with dominant positions in the areas it

Bank Muscat's dimension can be derived from the statistics and initiatives listed below:

- Largest bank in the Sultanate of Oman with assets in excess of RO 1.3Bn (USD 3.48Bn) (with market share of more than 40%)
- Bank Muscat's Service channels include Branch operations, Internet/Online, Kiosk, Call Center, Phone banking and ATM
- First financial institution in Oman to open a Call Center to provide round-the-clock "Telephone Banking Services"
- Most extensive branch network in Oman having more than 100 branch offices
- Largest ATM network in the country
- In addition to its domestic banking operations, Bank Muscat has an established presence in the International market including India.

operates. Starting in 1999 with its headquarters in Muscat, BCT's operations today span across Middle East (with offices in Muscat & Dubai and customers in every possible segment across the region), USA (based in Boston, Massachusetts having more than 100 engagements to its credit) and India (Chennai, Bangalore & Mumbai engaged in local India sales, offshore development center to support a Global Delivery Model and International Business Development to further foray into new geographies & territories).

Bahwan CyberTek (BCT) has time-and-again taken up challenges for accomplishing the mission of customer satisfaction armored with a focused vision and technical expertise. BCT's Offshore Development & Competency Center (ODCC), strategically established at Chennai (India), focuses on providing offshore software consulting, project execution, product development and facilitates virtual development facilities for our clients globally. BCT is geared towards recognizing and responding to the emerging global IT trends and innovations, with products, solutions and services to best suit the customer's requirement. BCT has well-defined processes, methodology and guidelines to ensure customer satisfaction.



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