



GOVERNMENT OF DUBAI
DEPARTMENT OF ECONOMIC DEVELOPMENT

Overview

Country or Region: Dubai/United Arab Emirates

Industry: Government

Customer Profile

The Dubai Economic Department (DED) is responsible for licensing Dubai-based businesses. It contributes to economic growth by suggesting policies and preparing development programmes in the region.

Business Situation

In response to a decree by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Ruler of Dubai, the DED wanted to deliver its services to residents online.

Solution

DED IT professionals optimised the organisation's IT infrastructure and made key services available online to employees, other government departments, and members of the public.

Benefits

- Reduced IT training costs.
- Fast deployment of e-government services across multiple channels.
- Increased accountability.
- Lowered maintenance cost.
- Services in Arabic and English.

Employees at Dubai Public Agency Deliver Promise of E-Government

“The deployment of a new service used to take days or weeks, but we can now do it in just a few minutes.”

Edward Ljunggren, Project Specialist, Department of Economic Development (DED)

The Dubai Department of Economic Development (DED) was one of the first public bodies in the United Arab Emirates (UAE) to make its services available online. Drawing from this experience, the organisation, which grants trade licences to Dubai-based businesses, has refreshed its IT infrastructure using the latest Microsoft® technologies. As part of this project, it deployed an employee intranet, an extranet for external government departments, and a public-facing Web site. Through these online resources, DED delivers targeted information and services to its customers. The new system, which handles business registration and regulation, is exposed through an intranet application, the Internet, kiosks, and mobile applications. It has been endorsed by the UAE Vice President and Prime Minister and Ruler of Dubai His Highness Sheikh Mohammed bin Rashid Al Maktoum.

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Situation

In 2000, His Highness Sheikh Mohammed decreed that all government bodies should take steps towards delivering key services online. The Dubai Department of Economic Development (DED) was one of the first government entities in the region to take up the challenge of e-government, but its existing IT infrastructure was initially a barrier to success.

The organisation, responsible for issuing trade licences and permits to companies in Dubai, operated a Trade Licence and Regulatory System based on an older version of PowerBuilder. To make certain elements of this available online, its IT team commissioned a project to develop a Web-based application using Java technology.

Edward Ljunggren, Project Specialist, DED, says: “Initially, our people tried to offer the public online services by writing new Web-based applications in Java. However, this approach was not practical because we were left with two systems to maintain, and we had no experience of working with Java. As a result, we decided to scrap the pilot and roll out an entirely new operating environment that could support our challenging e-government agenda.”

IT professionals wanted a solution that could quickly rebuild core business licensing functionality and make it available online. In addition, it was a key aim to reduce development times and increase flexibility by reusing code objects across a number of service delivery channels, including the Web, Interactive Voice Response (IVR), and Short Message Service (SMS). Integration with other government departments was also a critical requirement because applications for business licences often depend on approval from third parties, such as the municipality.

While the DED needed to enhance its core operational system, it also required an information infrastructure that could provide time savings for employees and licence applicants. “Previously, documents were stored on individual PCs, making it difficult and time consuming for us to search and find key data,” Ljunggren says. “We wanted to offer a central knowledge share consisting of documents, applications, and automated workflows for support functions, such as IT support and stationery ordering.”

The DED IT team had a number of aspirations in terms of enhancing the organisation’s Web presence. It wanted to shorten the publication time for new policies and procedures, giving content authors the ability to change text and pictures on the Web without IT assistance. In addition, it wanted to provide online services, such as simulations and scenarios, to help new businesses calculate the probable costs of processing their licence applications.

Finally, the DED needed to enhance its visibility of economic development in the region. To achieve this, the IT team decided to replace existing systems with more flexible data analysis tools. “We need to see how many new businesses are trading and what sectors they are operating in,” says Ljunggren. “This kind of information helps the central government of the United Arab Emirates ensure that the correct economic policies are in place to support sustained growth.”

Solution

DED IT professionals upgraded the IT infrastructure based on the latest Microsoft® technologies. Disparate domains were consolidated on Windows Server® 2003, while Active Directory® and Active Directory Application Mode (ADAM) were deployed to authenticate internal and external users.

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Microsoft Internet Security and Acceleration Server was used to enhance network security for both inbound and outbound traffic.

IT staff used the Microsoft .NET Framework and Microsoft Visual Studio® .NET 2003 to redevelop the DED Trade Licence and Regulatory System, which automates the processes required to register and regulate Dubai-based businesses. Different elements of the Trade Licence and Regulatory System are available to internal users, external users at other government departments, and members of the public on three distinct portals. Ljunggren says: “We were able to create these three portals on a Web-based User Interface, which allowed significant reuse of code, reducing development time for the new solution significantly.”

The employee-facing intranet portal, which is the default homepage for all DED employees, is based on Microsoft Office SharePoint® Portal Server 2003. This provides access to key corporate information, team sites, internal support functions, and commonly used applications such as the Trade Licence and Regulatory System. This consists of six modules—Trade Licence, Commercial Permit, Commercial Protection, Consumer Protection, Inspection, and Cashier.

Each module consists of a set of procedures, such as “Renew Licence” in the Trade Licence module. Employees who initiate a specific procedure automatically launch a wizard that determines what actions need to take place. For example, renewing a licence requires data entry, supporting documents, payment details, and certificate delivery. Ljunggren says: “This functionality is the product of a workflow engine, which allows the DED IT department to coordinate the flow of an application between departments. Members of the IT team can also change business rules quickly and effectively without recompiling code.”

External government entities, as well as the public, enter the Trade Licence and Regulatory System through two separate Web sites. These were created by the IT team using Microsoft Content Management Server 2002. Non-DED users are authenticated to access the system using ADAM, which provides a single user ID and password for all required applications.

Workflow features allow the DED and third-party authorities—including the Dubai Police, Dubai Cargo Village, and Dubai Security Services—to review and approve transactions from their respective offices, regardless of where transactions are initiated. This high level of integration is based on Microsoft BizTalk® Server 2004 and Web services.

The entire solution runs on a load-balanced production environment that can scale quickly to accommodate growing numbers of users. New users were trained to use the system before deployment, minimising disruption to normal operations. Because of extensive planning, the IT team was able to deploy the new database infrastructure and application code over a single weekend, with no business downtime.

Currently, members of the public who submit applications can follow their progress online. In addition, they can use a series of scenarios to see how much licence processing is likely to cost. Ljunggren says: “We are already delivering a host of information services. For example, businesses can enter their licence number to view fines and other relevant information. This cuts down the number of enquiries we receive each day and enhances service for the public.”

Future releases of the core application will also allow businesses to pay for services on the Internet. A licence certificate, which includes a smart chip, will then be printed

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and delivered to the customers' address based on a fully automated process.

Benefits

Government employees can now access a secure, scalable, intuitive interface for processing trade licence requests. In addition, a host of online services allows members of the public to interact with the department confidently.

Less IT Maintenance, More Agility

The Trade Licence and Regulatory System is accessed by more than 1,000 users at 20 government departments. While necessary changes to the system previously required significant manual intervention, these can now be handled quickly and effectively.

“If we need to make a change, we simply upload it to a staging environment and put it into production,” says Ljunggren. “With 90 operational procedures in the core operational system, the ability to deploy changes quickly is delivering very significant time and cost savings. We have also integrated 50 new maintenance functions into the system. This means our administrators can change the status of user accounts and amend business rules centrally, with no need to alter underlying code elements.”

In addition to these benefits, the DED has reduced its training requirements based on the deployment of a centralised architecture. “We no longer have to train IT professionals on multiple technology platforms,” says Ljunggren. “This is already delivering significant savings and helping us focus on our core business of delivering enhanced services to members of the public.”

Fast Multi-Channel Services

The new architecture, based on Windows Server® 2003 and the Microsoft .NET Framework, supports the rapid deployment of

a range of online services. These have been launched across a number of service delivery channels.

Ljunggren says: “We now have a single environment for building and deploying e-government services. Since the multi-tier application centralises business objects, procedures can be exposed with relative ease to a range of service channels. These are currently the Internet, touch screen kiosks, IVR systems, SMS systems, and mobile applications. Our new capabilities for multichannel service delivery offer customers a variety of ways to interact with the department at their own convenience.”

An example of how business components can be reused is the DED payments module, which decides the cost of a transaction. This is a complex business rule that is currently being deployed by the IT team with little or no customisation across several different service channels. Ljunggren says: “Porting a service to a new channel saves considerable time because we only need to develop parts specific for that channel.”

Reusable code elements will also streamline the development of online services delivered to the public and external government departments. “Since we are using a Web interface for almost all channels, we can take advantage of part of the presentation layer by reusing Microsoft Web user controls,” says Ljunggren. “As well as reducing development times, this has ensured a standardised look and feel across all internally and externally facing sites.”

Fewer Errors, Increased Accountability

The new architecture reduces transaction errors and increases accountability through the standardisation of business rules. “Processes required to issue licences are now controlled by wizards that guide employees through requirements step by

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step,” says Ljunggren. “This makes it easy for auditors to view transaction histories and reduces errors related to manual validations.

“Previously, our systems could not really enforce business rules, and the requirements for completing processes were in employees’ heads. Now, business rules are enforced, and any choice to break them creates an audit trail that can be reviewed at a later date. All this ensures that we all work transparently and provides the highest level of accountability across the organisation.”

Better Services, More Productivity

Web services, supported by the Microsoft architecture, have helped DED enhance integration with external government bodies. In turn, this has increased the quality of services for the public.

“Many types of licence applications depend on third-party data,” says Ljunggren. “For example, Dubai Municipality requires employee information from the Ministry of Labour to process fees collected by the municipality. While this previously required staff to use two applications, we now retrieve this information from the Trade Licence and Regulatory System, directly reducing the work for Dubai municipality staff by 60 per cent.”

The DED has also created a number of Web services to interconnect its system to automate and enhance various elements of service delivery and reduce routine tasks for employees. Web services are exposing a fax server to send inspection fine details and payment vouchers to customers, a SMS gateway to send notifications, and an archiving system to view scanned company documents. They can be consumed by Web sites, SMS systems, or IVR systems to support seamless, multichannel communication with members of the public.

Collaboration Saves Money

Knowledge workers at the DED can search and find key information quickly and effectively through a centralised intranet portal. Bringing back knowledge to the organisation is saving the department \$0.5 million annually by allowing staff to reuse colleagues’ work that previously was hidden on individual computers.

“Previously, employees were unaware of the applications or documents made available to them to make their work more effective,” says Ljunggren. “As a result of the intranet portal, we no longer have situations where an employee has spent weeks creating, distributing, and analysing an economic survey oblivious to the fact that a survey generator was available to them and would have cut the work in half.”

As well as increasing productivity for knowledge workers, built-in workflows in the Trade Licence and Regulatory system enhance collaboration between DED staff, external departments, and the public. “Certain licence applications require third-party approvals,” Ljunggren says. “Instead of requiring the customer to visit in person, the application will be electronically reviewed. Once the applications have been approved or rejected, we can continue the transaction seamlessly.”

Leading Technology Partner Support

Over the last three years, DED technology professionals have developed strong working relationships with Microsoft, helping to ensure the success of recent IT projects. “We have adopted a lot of Microsoft technologies, and they have been successful for us,” says Ljunggren. “The Microsoft people who have engaged with us have been very helpful in terms of strategic consulting and training.”

The relationship between DED people and Microsoft people is based on excellent after-

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sales support. “Microsoft is a strategic IT partner that goes further than an occasional sale,” says Ljunggren. “Together, we share a long-term approach to serving the people of Dubai using the latest technology. We look forward to continuing our successful relationship by making the most of the ever-evolving Microsoft product range and its highly professional staff.”

Driving Economic Growth in the Region

The DED IT division can generate reports relating to the types and numbers of businesses opening in Dubai. This helps senior members of the organisation to advise the central government of the United Arab Emirates to ensure that appropriate economic policies are in place.

“We are currently talking to Microsoft about how we can enhance our reporting functions still further using the latest technology releases,” says Ljunggren. “In addition, our Business Development Unit has already deployed Microsoft Dynamics CRM 3.0 to help it support key companies in the region.”

High Profile with Central Government

The new technology deployment has helped the DED increase its profile with the central government of the United Arab Emirates. “Some other licensing authorities in the region are interested in adopting our system,” says Ljunggren. “Our choice of technology infrastructure has also been endorsed by His Highness Sheikh Mohammad Bin Rashid Al Maktoum.”

In fact, in March 2006, Sheikh Mohammad approved a memorandum aimed at extending the implementation of the electronic system adopted by the DED throughout the United Arab Emirates.

Services in Arabic and English

Finally, all e-government services delivered by the DED online are now available in Arabic

and English. “Previously, even licence certificates were in Arabic only, but because Dubai has a large expatriate community, this was no longer appropriate,” says Ljunggren. “Now, English speakers can become more involved in the licence application process. They can also understand all the paperwork that typically accompanies applications.”

For More Information

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Microsoft Server Product Portfolio

For more information about the Microsoft server product portfolio, go to: www.microsoft.com/servers/default.msp

For more information about Microsoft Exchange Server, go to: www.microsoft.com/exchange

Software and Services

- Microsoft Server Product Portfolio
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 - Microsoft Identity Integration Server 2003
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