Istanbul Digital City Vision Aligns Technologies to Complex Business, Economic, and Social Needs

Executive Summary

CUSTOMER NAME
Municipality of Metropolitan Istanbul

INDUSTRY
Public Sector

BUSINESS CHALLENGES
- Become a European cultural capital by 2010
- Improve citizen services and narrow the digital divide among 15 million people
- Cut costs with integrated infrastructure for all municipal companies and divisions
- Create a replicable model using broadband for additional cities

SOLUTIONS
- A roadmap that includes more than 20 interconnected projects
- All project objectives clearly defined for improved municipal productivity, better citizen and business services, and social and economic development

BUSINESS RESULTS
- Quadrupled city budget to speed up ICT adoption
- Created a Service-Oriented Architecture to strengthen infrastructure integration
- Broadened access to services via connected community centers and Web portal
- Increased broadband capabilities via 60 miles of municipal fiber ducts

As Turkey resumes its campaign to join the European Union, Istanbul, its largest city, plans multiple Information and Communications Technology projects aimed at transforming a teeming metropolis that forms the cultural bridge between Europe and Asia.

Business Challenges

Istanbul is in a unique position, geographically, culturally, and historically. As Constantinople, it was the cradle of Orthodox Christianity; later the city became the fabled capital of the Ottoman Empire. Today it is a thriving metropolis of 15 million people, straddling the boundary between Europe and Asia, is home to 25 percent of Turkey's 1.3 million companies, and accounts for 47 percent of the country's GDP.

Istanbul's impressive resume will help raise Turkey's socioeconomic profile as a stepping-stone to becoming a full member of the European Union (EU), of which Turkey is currently an associate member. It wants be known as a world-class metropolis at the heart of Eurasia, and as the cultural capital of Europe by 2010, says Istanbul Mayor Kadir Topbas.

Before it can get there, Istanbul needs to address a number of challenges, including an increase in cost-of-living expenses, traffic congestion, immigration, unemployment, and street crime, with high levels of unauthorized construction that render half its buildings vulnerable to earthquake damage. Given this landscape, the city needed a way to define rapid, visible improvements, and address a wider political agenda.

It found some answers in an ambitious project designed to bring Istanbul's vision of becoming a digital city to life. The project begins by benchmarking Istanbul's municipal efficiency, citizen and business services, and social and economic development against prevailing standards in other, major European cities. This program was a starting point for Turkey to develop its own transformation plan—one that may evolve into a replicable blueprint for other large Turkish cities.

Cisco Internet Business Solutions Group (IBSG)

Solutions

The digital transformation of any major city is a formidable task. Istanbul prioritized improved administrative coordination and cohesion among the regional Istanbul governorship, the metropolitan municipality, and the Istanbul police. Just as important were improved communications between the 24 municipal public companies and 20 city administrative departments. Further key objectives dealt with increasing productivity among employees, improving services to citizens and businesses, and creating effective IT disaster-recovery capabilities.

Istanbul turned to the Cisco® Internet Business Solutions Group (IBSG) to convert these objectives into a set of practical projects, spread out over two to five years. IBSG arranged best-practices workshops for senior municipal officials, working with Istanbul's CIO, Hakki Tok, to share the experiences of other major European cities and build a strong, coherent framework. The result was a Digital City roadmap, devised in just two months, supported by business cases as well as workshops for each identified solution. Solutions were arranged under three categories, each forming one pillar of a tripartite vision built on broadband deployment.

Productivity

Projects to improve municipal employee productivity include mobile working for city employees; a computer dashboard for real-time, online information about service delivery to the mayor and senior management; online human resources applications; a Service-Oriented Architecture (SOA) to optimize the IT infrastructure, with a governance model for shared projects undertaken by municipal companies; online learning and meeting tools; a helpdesk; and field automation for engineers tasked with maintaining continuity of municipal services. "The SOA infrastructure project is our main IT project," says Tok. "It's very important to us because we have 24 companies in the municipality, and we have to integrate their IT systems with the municipal system. SOA is the best technology for integrating all these systems."

Citizen and Business Services

A number of programs are underway to improve public and commercial services. They include new front-office services to handle public inquiries or requests remotely; an e-transformation portal, providing feedback and updates on the progress of the Digital City project; an electronic city guide, using high-resolution aerial photography to map city streets, placing the results online; a lifetime learning portal and an Internet library; and a public transportation automation project that will offer integrated ticketing across all transport modes.

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Social and Economic Development

A new technology park to draw in major ICT companies and accelerate development is high on the list of future economic and social projects. This part of the digital vision includes innovative business models for stimulating broadband growth, along with plans to deploy wireless broadband over technologies such as mesh networks or wireless laser communications links, which are an alternative to dark fiber (individual fibers that have yet to be used within cables that have been already laid).

A network of connected community centers will provide access to health, education, and employment information for disadvantaged members of the community. An innovation community pilot project and a portal offering content charting Istanbul's plans to become a fully developed European Union Knowledge-based Society—a program that promotes investment in both human and social capital and in creativity and knowledge, linked to ICT usage—are also in the works

Business Results

After the roadmap was endorsed, Istanbul quickly allocated funds for the first phase. The city's ICT budget was increased from US$15 million in 2006 to $67 million in 2007, with a focus on building the new SOA Web foundation and installing a governance model to meet the demands of the Digital City roadmap. SOA will support the integration of the IT systems for all 44 municipal companies and departments over a common infrastructure, reducing costs and allowing rapid deployment of multiple applications.

The benefits from using Cisco Unified Communications tools to facilitate meetings with general managers and other executives who are dispersed geographically across the municipality are already being realized. "Istanbul is a very big city, and the companies are located in different places; some on the Asian side, some on the European side," notes Tok. "Traffic is a major problem in the city, and it was hard to arrange meetings before. Videoconferencing and video telephony enable online meetings to take place easily."

Istanbul also moved quickly to deploy broadband. By mid-2007, it had installed some 60 miles of fiber ducts, which are anticipated to extend to 100 miles by the end of the year. This yields a double benefit. First, it provides the municipality with a high-capacity backbone for its own broadband communications. Second, it lets operators lease dark fiber to provide commercial broadband services—the number of service providers is expected to grow from four currently to five more this year, raising the prospect of an emerging competitive marketplace that should ultimately drive down prices.

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A successful pilot of 50 connected community centers across Istanbul, each equipped with 25 PCs and staffed by a manager to help new users, was launched in poorer sections of the community, attracting 1,500 registered users in just one month. The centers are an alternative to the city's 3,000 Internet cafes, offering a clean, secure environment where users can go online for up to one hour free of charge. The city will open 200 more centers by the end of 2007, bringing access to nearly 20,000 users.

Once the construction of the new Web portal is complete, it will offer IP telephony and video on demand, also accessible through the connected community centers. A second pilot will use digital signage in the centers and other key locations throughout the city to highlight local services, improve public awareness, and encourage information sharing among citizens.

Istanbul's innovative electronic city guide provides high-resolution maps of all city streets, based on four million aerial photographs at 1/750 scale, which are planned to increase to 1/250 next year. City officials use the maps to pinpoint practical issues or problems requiring intervention, as well as follow up on citizen inquiries, complaints, or claims. Traffic-monitoring cameras are also connected to the Internet, enabling drivers to check road conditions within the city.

An earlier project to deploy video surveillance cameras in the interests of public safety, carried out under the auspices of the Istanbul regional government, has already had a significant impact on reducing street crime. It is now being expanded under the municipality's Digital City project, using Cisco IPICS (Interoperability and Communications System) to integrate all systems and devices used by police, ambulance, and fire brigades for a more coordinated response to public emergencies.

Next Steps

Forthcoming initiatives in Istanbul's Digital City program, scheduled to start in 2008, include a Citizens Integrated Response Center. Once complete, the center will centralize access to municipal services through a virtual call center, reachable by a 1-1-3 number, with integrated multichannel links. The center will be supported by a customer relationship management system across the municipality, with a new data warehouse to store all citizen and service data, enabling converged communications and case handling for all municipal bodies,

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Further developments in internal municipal knowledge management will complement the mayoral information system, piloted in 2007, to improve reporting and feedback procedures. Plans for a new municipal intranet will integrate messaging with document management systems. Collective broadband procurement for interdepartmental needs and deploying wireless broadband are on the agenda as well. The city's plans for a technology park are pending, subject to legal governance issues.

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More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps Global Fortune 500 companies and public organizations transform the way they do business—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that improve customer experience and revenue growth.

For further information about IBSG, visit http://www.cisco.com/go/ibsg

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