

Case Study & POC & Demos Information

Type: Technology

Name: Intelligent Operations Center (IOC) for Smarter Cities

Description:

IBM Intelligent Operations Center delivers new applications and enhanced functionality in user experience, intelligent response, and optimization rules.

Cities around the globe are faced with the common challenges of aging infrastructure, shrinking budgets, shifting populations, and increasing threats. Innovative city leaders understand that to address these challenges they not only have to work harder, but smarter. This requires analyzing information to make better decisions, anticipating problems to resolve them, and coordinating resources to operate effectively.

The IBM Intelligent Operations Center for Smarter Cities® solution is designed to process data feeds and event information from individual departments to help improve the operational efficiency of a city or other complex infrastructures. It provides an executive dashboard to depict the overall status of a city's operations. The dashboard spans individual agency-specific solution areas and enables drilldown capability into each underlying agency - water management, public safety, and traffic management.

By taking advantage of advanced analytics, situational awareness, and collaboration tools, the IBM Intelligent Operations Center delivers the ability to gain insight into the city environment via centralized information. It enables the integration of citywide daily operations to allow visibility into key performance indicators (KPIs), trends, analyses, business rules, and cross-agency collaboration.

1. IOC Capabilities:

Capabilities of the Intelligent Operations Center for Smarter Cities:

- User configurable reporting capability allows users to set up reports to gain insight into decision grade information captured by the Intelligent Operations Center.
- Workflow enhancements allow users to select the most appropriate response to an event captured by the Intelligent Operations Center.
- Interconnecting responses with situational awareness conditions can help optimize the responses and keep them at an appropriate level for the issue managed.

- User-configurable KPIs, rules, workflows, and reports for specific environments help reduce the need for dedicated IT staff to provide assistance with these activities.
- Includes additional connection points to the ever increasing applications found in the Smarter Cities application store. These applications can act as additional data sources. Applications currently available within the application store that can be connected to the Intelligent Operations Center include:
 - *City Pulse*: Allows the general public to report issues via mobile services request.
 - *Mayor's Dashboard*: Provides an easy-to-read dashboard for executives to view significant issues in their city.
 - *Sentiment Analysis*: Learns what citizens are saying via social media forms about city services and policies.
 - *SOP for Emergency Management*: Allows trained personnel to react to emergency situations using well defined standard operating procedures.
 - *Weather for Operations*: Delivers accurate weather forecasts and the ability to predict adverse weather conditions.
 - *Resource Management for Emergencies*: Collects information on the condition of assets used during emergency situations.
 - *Smarter Stadiums*: Provides situational awareness and actions to maximize stadium operations and stadium revenue sources.
- Intelligent Operations Center base can connect to a selection of related IBM solutions -- i2 Public Safety, Smarter Buildings, and Video Correlation and Analysis Suite (VCAS).
- Supports a multilingual customer user interface for operational tools.

The Intelligent Operations Center is now central to its associated products, which include Intelligent Water and Intelligent Transportation. Therefore, the features and functions that are present in the Intelligent Operations Center are also available in the Intelligent Water and Intelligent Transportation products. The IBM Intelligent Operation Center facilitates the conversion of data to information to intelligence to knowledge. These are the requirements to continue the journey to becoming smarter.

2. The city domain:

The Intelligent Operations Center enables a city to monitor its services and operations to facilitate insightful decision-making. This helps to provide effective event response management and coordination, from operational to critical events.

The use of predictive analytics for early problem resolution and real-time optimized service delivery is a key function.

For a city to evolve, it must harness and optimize its economic capacity, physical assets, culture, political will, technology, and business environment. The Intelligent Operations Center technology includes the following key features to facilitate this evolution:

- An enterprise view of all city domain systems through data feeds from the various city domain system sources
- Real-time, "at-a-glance" status of all city systems based on role
- City-wide business intelligence and predictive trend analysis
- Integrated collaboration tools for quick decision making
- City-wide business view with measurable KPIs
- Connection with the city's residents, such as a citizen portal via a large application store
- Instrumentation and interconnectedness with ability to grow as the city's needs grow
- Flexibility and agility to address varying requirements and differing structures
- Optimization of city services

The Intelligent Operations Center is not exclusively for city operations, but can be applied to many other large, complex environments such as: Sport stadiums; Airports; Mining operations; Emergency management; Coastal management; Large facilities management.

All of these large, complex environments have many interdependent, changing, and evolving processes. The Intelligent Operations Center is designed to manage these environments and will scale as they increase in scope, making the Intelligent Operations Center the natural choice to help make cities smarter.

The Intelligent Operation Center can be configured for many different industry use cases and is central to other products in its family. These include the Intelligent Water and Intelligent Transportation which are focused on delivering solutions specific to these areas. With the addition of the application store, the Intelligent Operation Center can now connect with many types of additional assets, enabling it to deliver appropriate solutions for a wide range of environments.

3. Product positioning:

The IBM Intelligent Operations Center is one of the IBM Smarter Cities solutions designed to make cities and government operate more effectively and efficiently - essentially smarter. The Intelligent Operations Center is integrated with the IBM i2 Public Safety portfolio. IBM offers a suite of Smarter Cities and government solutions that can help cities and government agencies:

- Integrate information from disparate, instrumented systems.
- Create an intelligent, interconnected environment that encourages collaboration.
- Enhance efficiencies.
- Foster effective decision making.

IBM IOC can help cities optimize individual departments--including buildings, emergency management, energy, operations, public safety, transportation and water-while facilitating seamless cross-departmental integration.

IBM Software Services has the breadth, depth, and reach to manage the client's (city) services' needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, IBM Software Services are extended and reach through IBM Business Partners to provide an extensive portfolio of capabilities.

Organization: IBM

Website:

http://www.ibm.com/smarterplanet/us/en/smarter_cities/overview/
https://www-304.ibm.com/sales/gss/download/industry_solutions_catalog/CrossIndustrySolutions.do?industry=cities
http://www.ibm.com/able/product_accessibility/index.html
<http://www-03.ibm.com/software/products/en/intelligent-operations-center>

Related products:

Hardware:

- AMD 64-bit processors
- Intel 64-bit processors, including Xeon EP and EX processors
- Each IBM IOC requires the processors, memory, and hard disk space as follows:

Server	Number of Server processors	Memory	Hard disk
Application server	4	24 GB	150 GB
Event server	4	16 GB	150 GB
Database server	4	16 GB	150 GB
Management server	4	24 GB	150 GB
Installation server	1	4 GB	150 GB

The hard disk requirements listed previously are permanent requirements. An additional 100 GB of storage per server is required for installation of the product. The temporary install files can be deleted once the installation completes.

- These sizings are for high availability, energy efficiency, and ease of management in an extended environment with x86 servers (such as IBM BladeCenter® H with IBM blades that use Intel Xeon™ EP and EX processors), storage, and associated networking components

Software and Services:

- Red Hat Enterprise Linux™ (RHEL) 5.5 64-bit

Vertical Industries:

- Transport
- Infrastructure and Constructions
- Resources Management

- Public Administration, Governance, Citizen Safety

Technologies used: Cloud, Digital analytics, Big Data

- IBM Intelligent Operations Center for Smarter Cities®

Demos: <http://www-03.ibm.com/software/products/en/intelligent-operations-center>

Related Patents: n/a

Related Standards: n/a