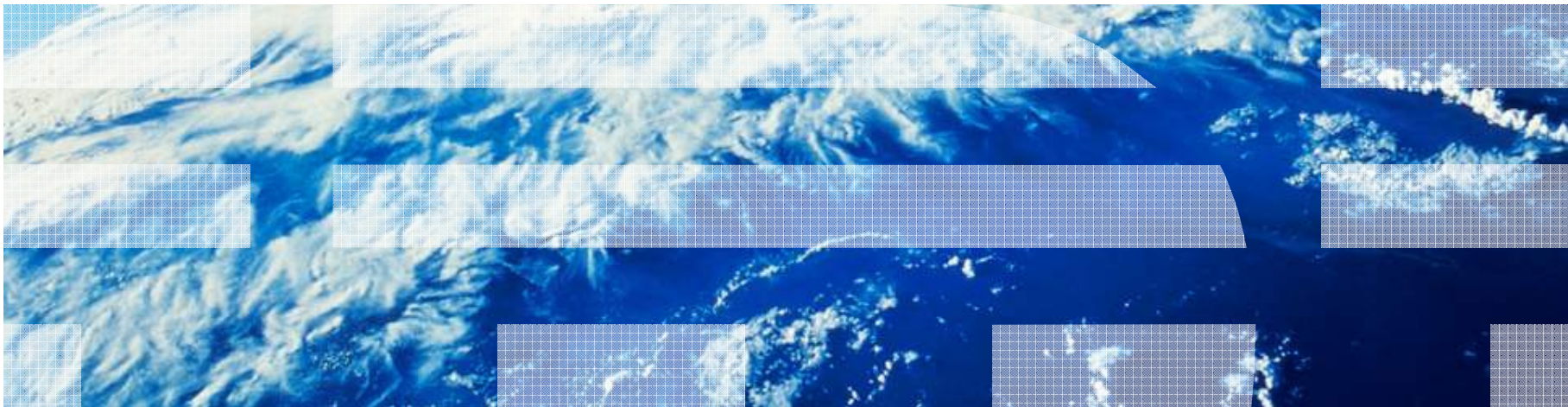# SMART Moldova

IBM way in a day, Chişinău 13. september 2011
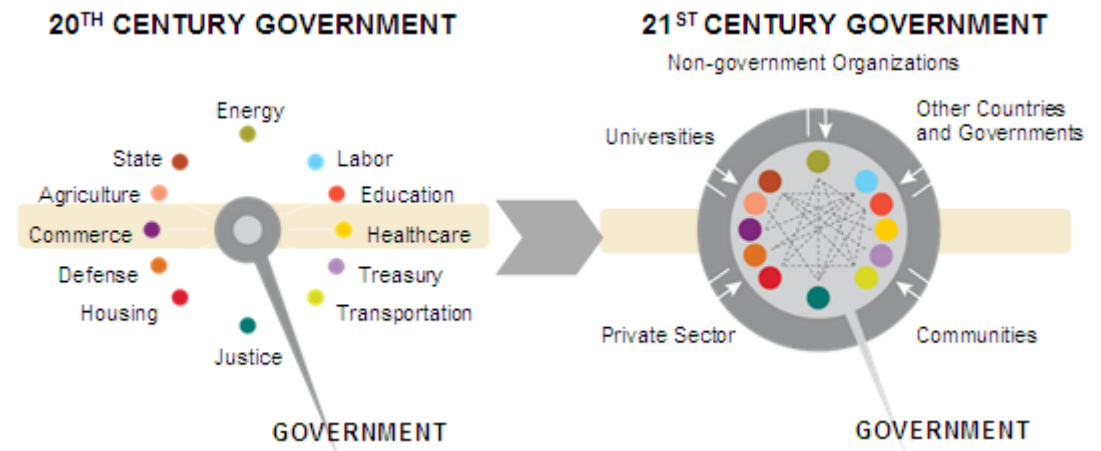
Gregor Lončar, IBM SWG Public Industry CEE
gregor.loncar@si.ibm.com

IBM

What should today Government solutions address !

What are today real problems Governments are facing ?

- Changing demographics

- Accelerating globalization

- Rising environmental concerns
-
- Evolving societal relationships

- Growing threats to social stability and order

- Expanding impact of technology

20TH CENTURY GOVERNMENT — 21ST CENTURY GOVERNMENT

20TH CENTURY GOVERNMENT
Energy
State
Agriculture
Commerce
Defense
Housing
Labor
Education
Healthcare
Treasury
Transportation
Justice
GOVERNMENT

21ST CENTURY GOVERNMENT
Non-government Organizations
Universities
Other Countries and Governments
Private Sector
Communities
GOVERNMENT

What is real situation with Government Solutions Today ?

Siloed , Complex and Unfocused solution & services

- Departments and other branches of local government are disconnected with manual processes
  - Public Services are fragmented and co-ordination and sharing of resources and information inconsistent

- Government mandated change can be costly, and time consuming
  - Inability to offer new services as required

- Focus on service provision
  - Services and applications not designed for citizen needs but based around service provision

- Concerns over value for money and trust
  - Reluctance to spend on enhancing infrastructure and delivering a better service and can lead to damaging failures in security and practices

App1 App2 App3 AppX

Login
Password
Remember me

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How to approach for new Government Solutions ?
Answer : To align Business and IT Objectives

How do I…

…speed the deployment of government/public sector solutions to meet business objectives?

…get the flexibility to re-use existing resources and IT systems while enabling new process capabilities?

…ensure there is a choice of technologies for Government projects that best support our strategy and deliver a quick ROI?

Business Architecture

Business Processes

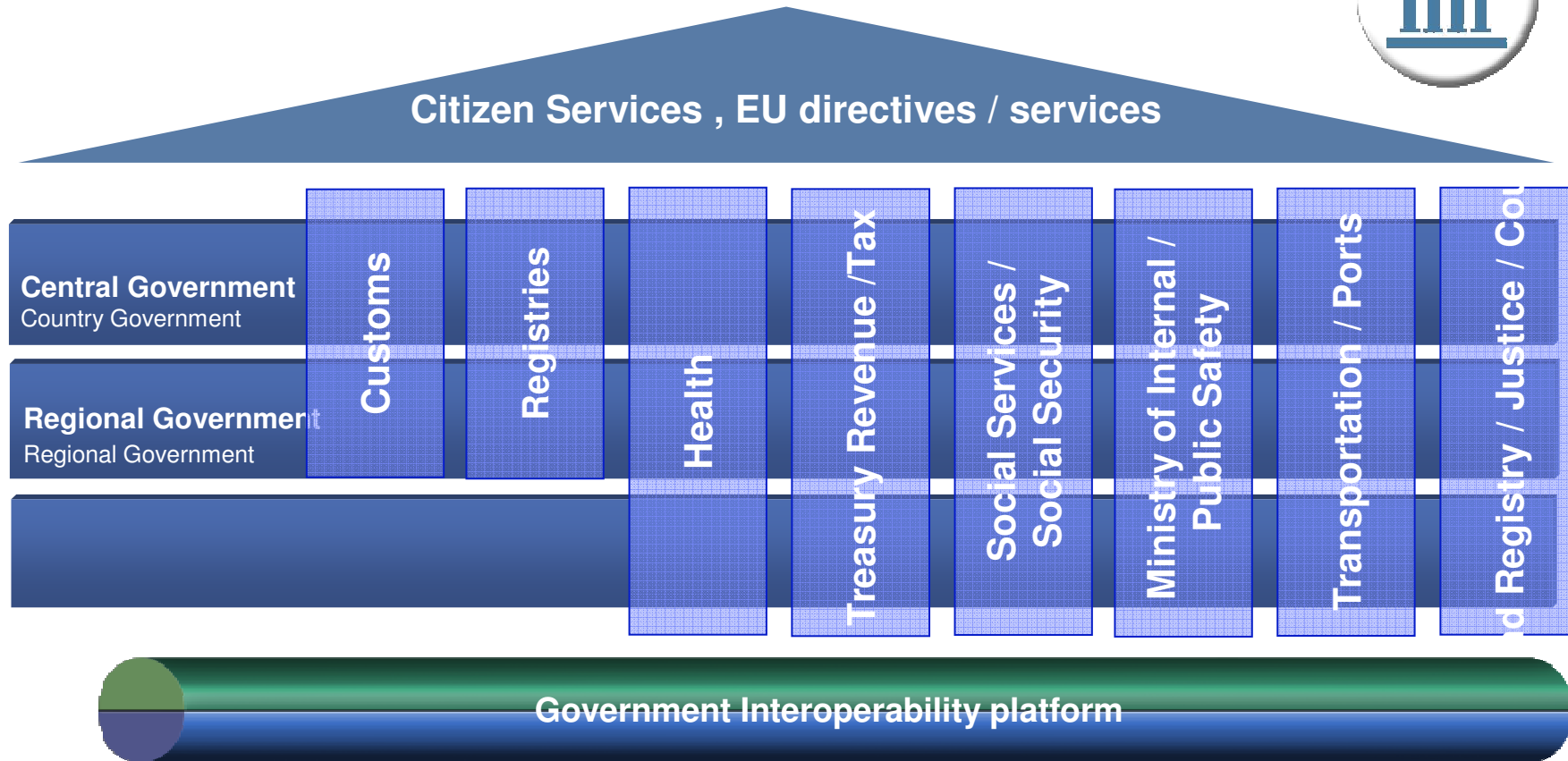**Technology Architecture & Infrastructure**
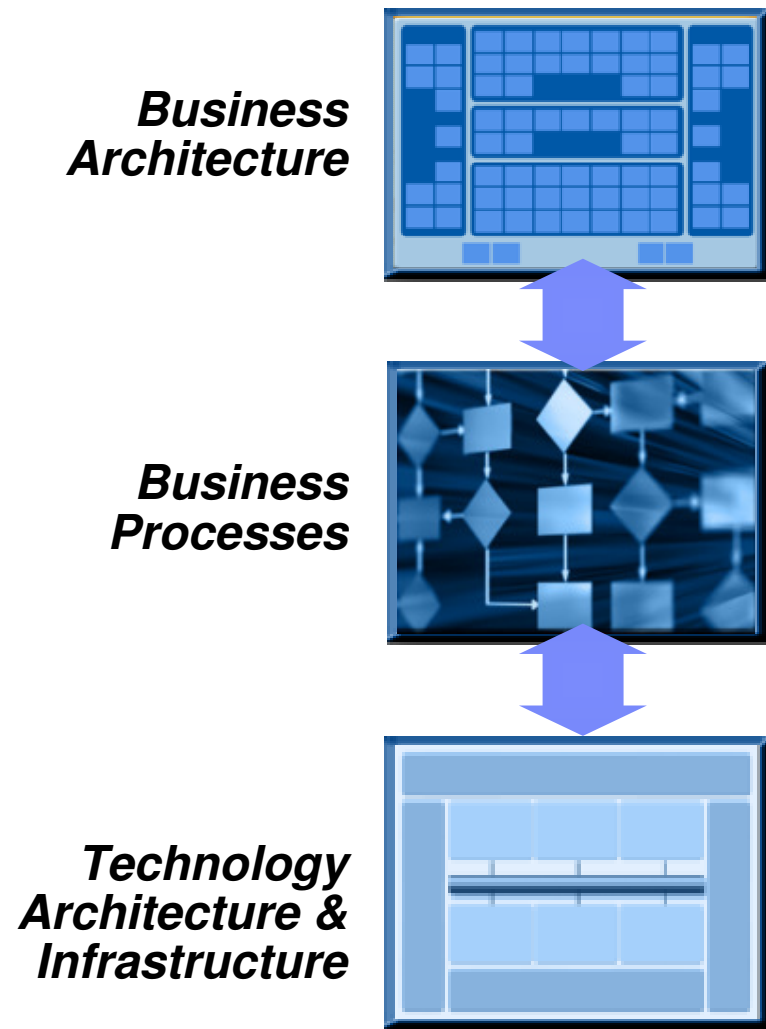
Government Organizations Must Innovate and Be Agile
To Respond to a World of Constant Change

- **Agility** - deliver rapid and dynamic response capability

- **Scalability** – flexibility in the operational environment

- **Interoperability** – within and across forces, between coalition members

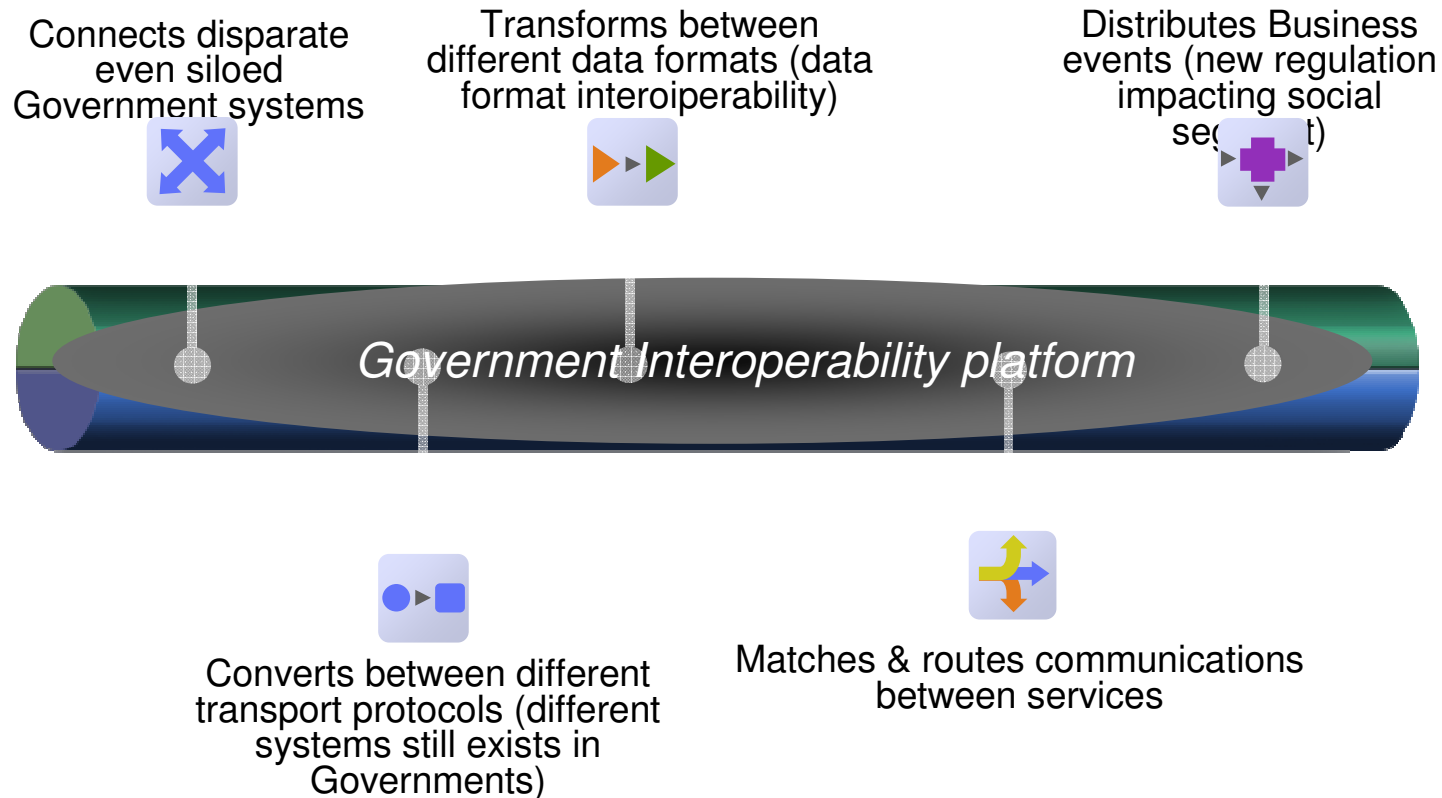- **Resilience** – improve mobility, autonomy, and robustness

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The Levels & Business Segments of Government solutions
IBM Industry approach applies at all levels

Citizen Services , EU directives / services

Central Government
Country Government

Regional Government
Regional Government

Customs

Registries

Health

Treasury Revenue /Tax

Social Services / Social Security

Ministry of Internal / Public Safety

Transportation / Ports

Registry / Justice / Cou...

Government Interoperability platform

Government Interoperability platform – IBM Value proposition

Connects disparate even siloed Government systems

Transforms between different data formats (data format interoiperability)

Distributes Business events (new regulation impacting social segment)

Government Interoperability platform

Converts between different transport protocols (different systems still exists in Governments)

Matches & routes communications between services

Optimizing Costs

•*Integrate new and existing Ministries & Solutions very efficiently and faster*

•*Improve performance more than 10x, with lower costs*

•*Achieve full ROI within as few as 6 months*

Traditional Custom Builds

IBM Government Interoperability platform

VS.

Assembly Method: Custom Build
Cost: Best Estimate/No Guarantee
Payment: Throughout the Build
Delivery Risk: Dependent on Skills
Quality: Dependent on skills
Maintenance: Custom

Availability: Check the Project Plan

Pre-Packaged Product
Fixed (and < than sum of parts)
Only when it arrives
Comes "in a box"
Commercial Product
Commercial Product

Today

Government Interoperability platform – What's in the Box?

"The IBM Government Interoperability platfomr " is a product that provides:

- A common, re-useable and interoperable Government Interoperability Environment
- Systems integrators and developers a Full Lifecycle Management Platform
- Tooling to build new, or integrate existing, government applications
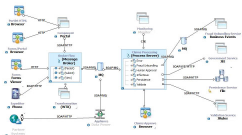
Platform is virtualized & deploys in 1 day
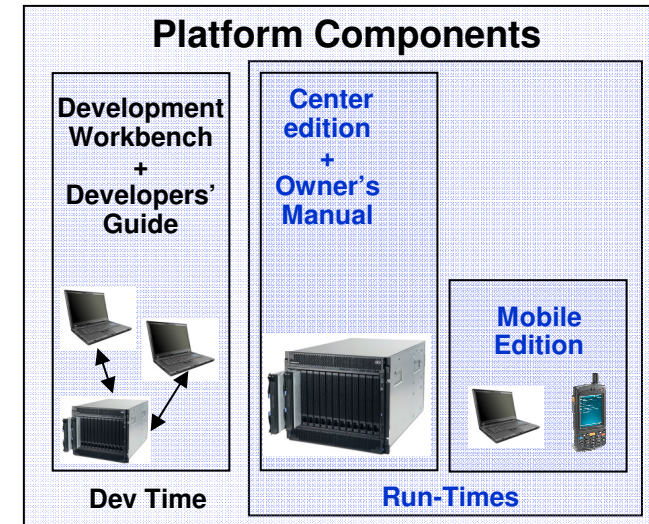
D1 Platform Run Time
Designed for Government Centers

D3 Mobile Run Time
Designed for mobile devices, Laptops and PDAs.

Workbench Dev Time
Full lifecycle build tools deploy to all runtime environments

Platform Components

Development Workbench + Developers' Guide

Center edition + Owner's Manual

Mobile Edition

Dev Time

Run-Times

Product Components Defined

- **Media, Scripts and Configuration Instructions for (Center edition), and (Mobile) Run-Times**
  - Scripted low touch Installations
  - Well Defined Capabilities

- **Developers Workbench**
  - Integrated Architecture, Engineering, Development, Testing platform
 - Detailed Examples

- **Developers Handbook**
  - Best practices and guidance on how to architect, design, develop, and test on the DOP platform

- **Owners Manual**
  - Enabling the owner to install, operate and maintain the Platform
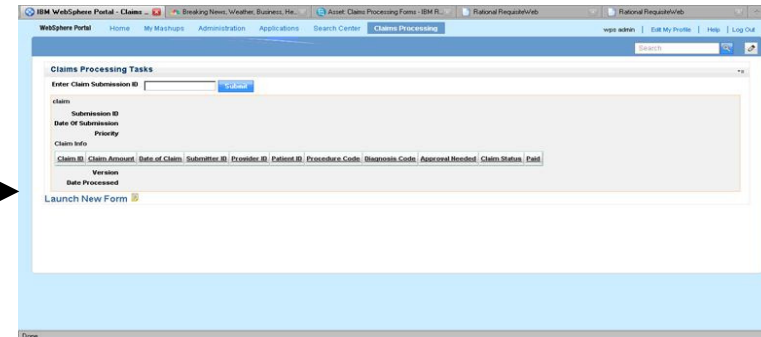
- **Integrated Support - In-Country Customer Interface**
  - The Customer Interface Manager/Accelerated Value Leader (AVL) provides on-site support assistance to platform Customers

Workbench Value

Turn a variety of tools, diagrams, pictures, hand waving, etc. …
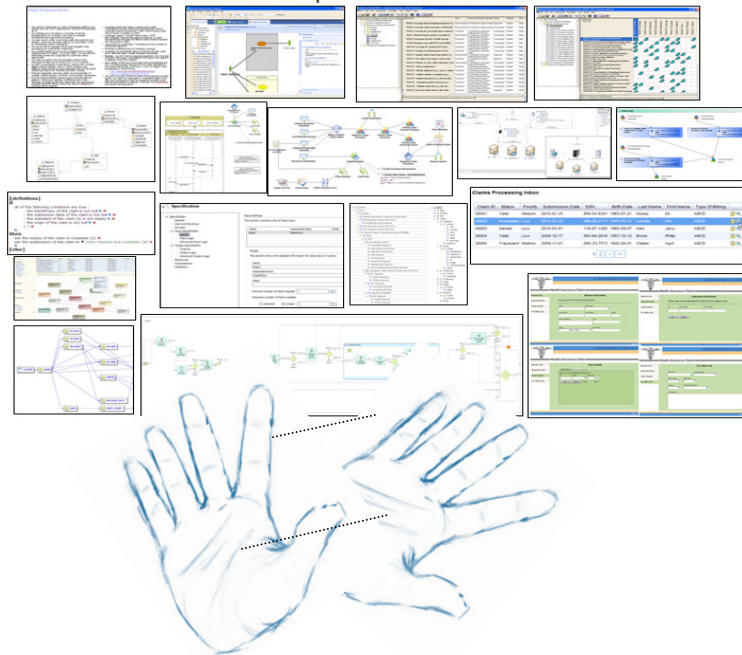
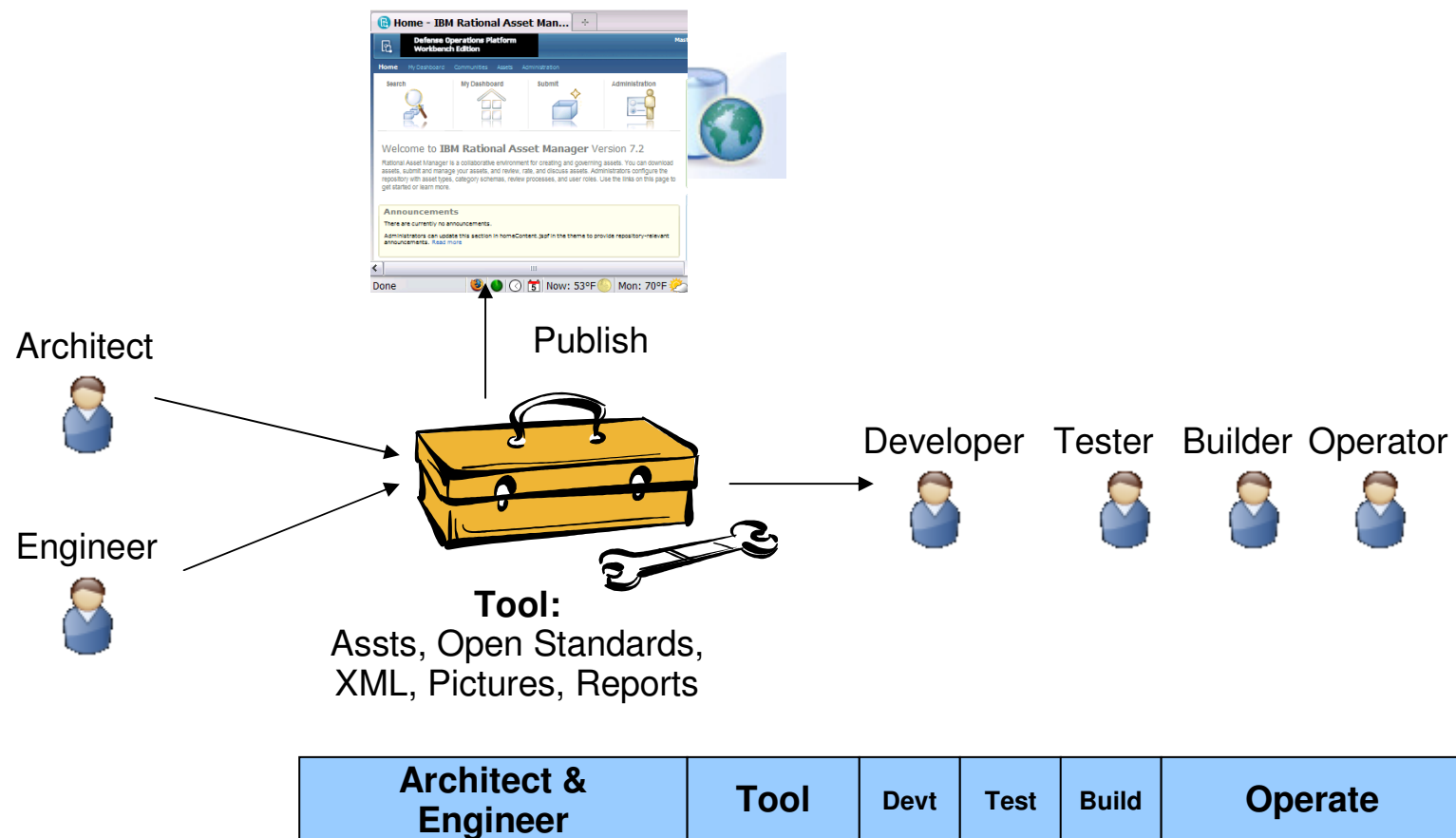Into <u>real running code</u>

- Cheaper (minimize custom coding)

- Faster (maximized use of COTS software)

- Effective (the right architectures and code)

- Efficient (higher quality implementation)

- Smarter (leveraging best practices)

- Traceability (what requirement does this satisfy)

- Visibility (how often is this re-used)

- Impact Analysis (what's affected if I change this)

Paradigm Shift – Standardizing Build & Run Time Processes

- Tools have interfaces for architects & engineers who design assets. Open standard models in XML are hidden.   Tools generate code and binaries from XML. Defects are either in design or tool.
- Development, Testing and Build are radically shortened,

Architect

Engineer

Publish

Developer   Tester   Builder Operator

Tool:
Assts, Open Standards,
XML, Pictures, Reports

| Architect & Engineer	Tool	Devt	Test	Build	Operate

Component Details – Platform Build Packages

- A Set of Media, Scripts and Detailed Configuration Instructions will be provided for each of the Government Platform 1.0 Editions. Each of these packages are configuration managed and have been pre-tested.
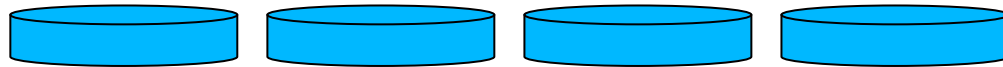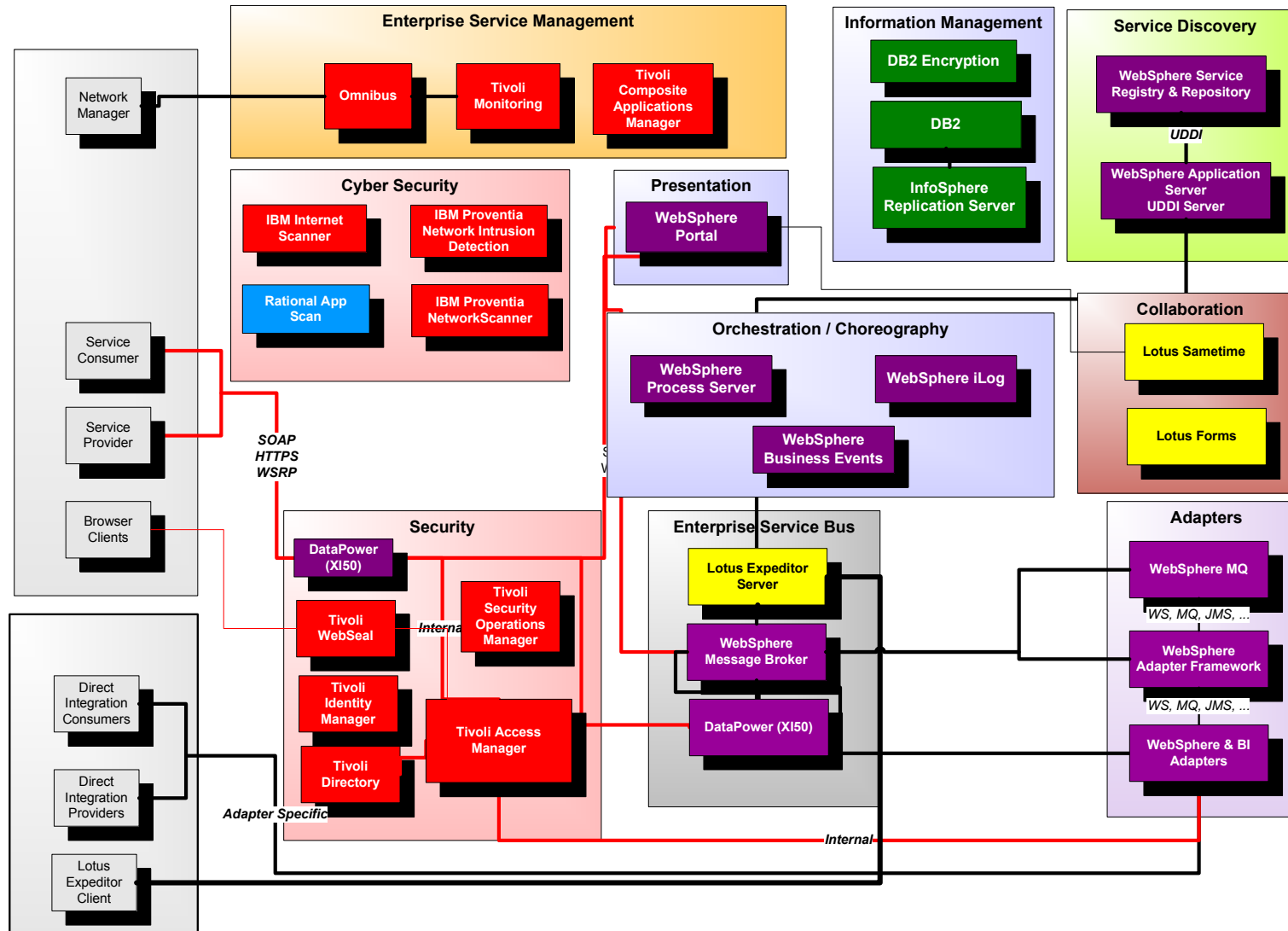
- The customer/integrator will kick-off the build/installation on the <u>hardware platform of their choice</u> (must be running VMWare), and using a customer supplied Red Hat 5.4 license, supply the requisite information (IP addresses, host names, domain names etc), and the installation will proceed with low touch to provide a build that conforms to the customer's networking environment
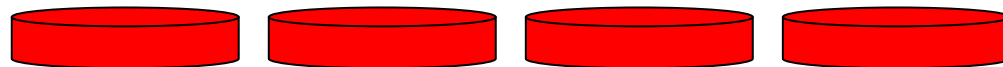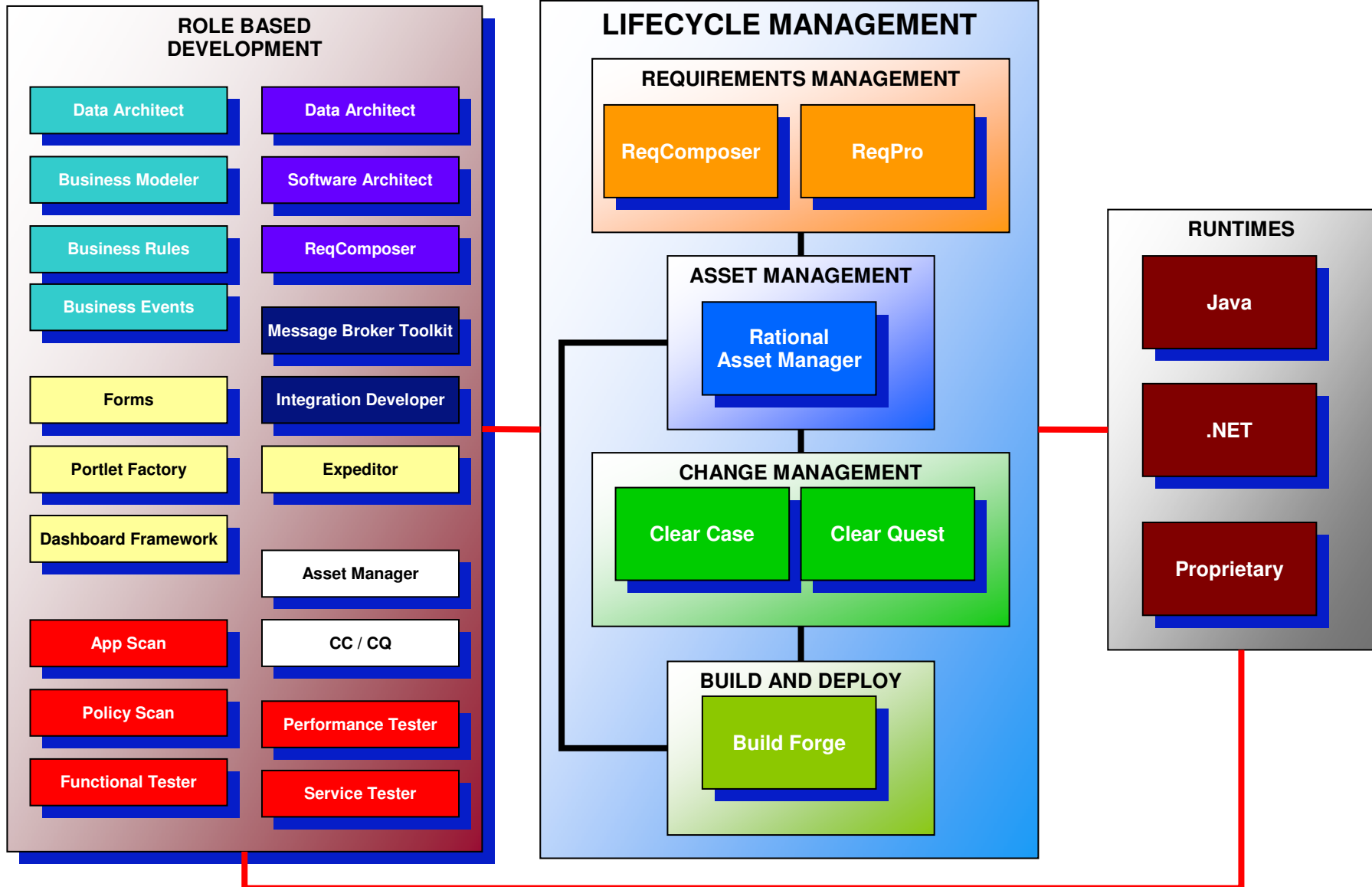
- This build process will enable the customer/integrator to
  - Supply their own IP address/hostnames (frequently classified information)
  - Build at a schedule that suits them / ie. They can pre-build and put on the shelf
  - Leverage only the capabilities they want to use
  - Establish National Skills

VMWare Images Available Via Services Engagement
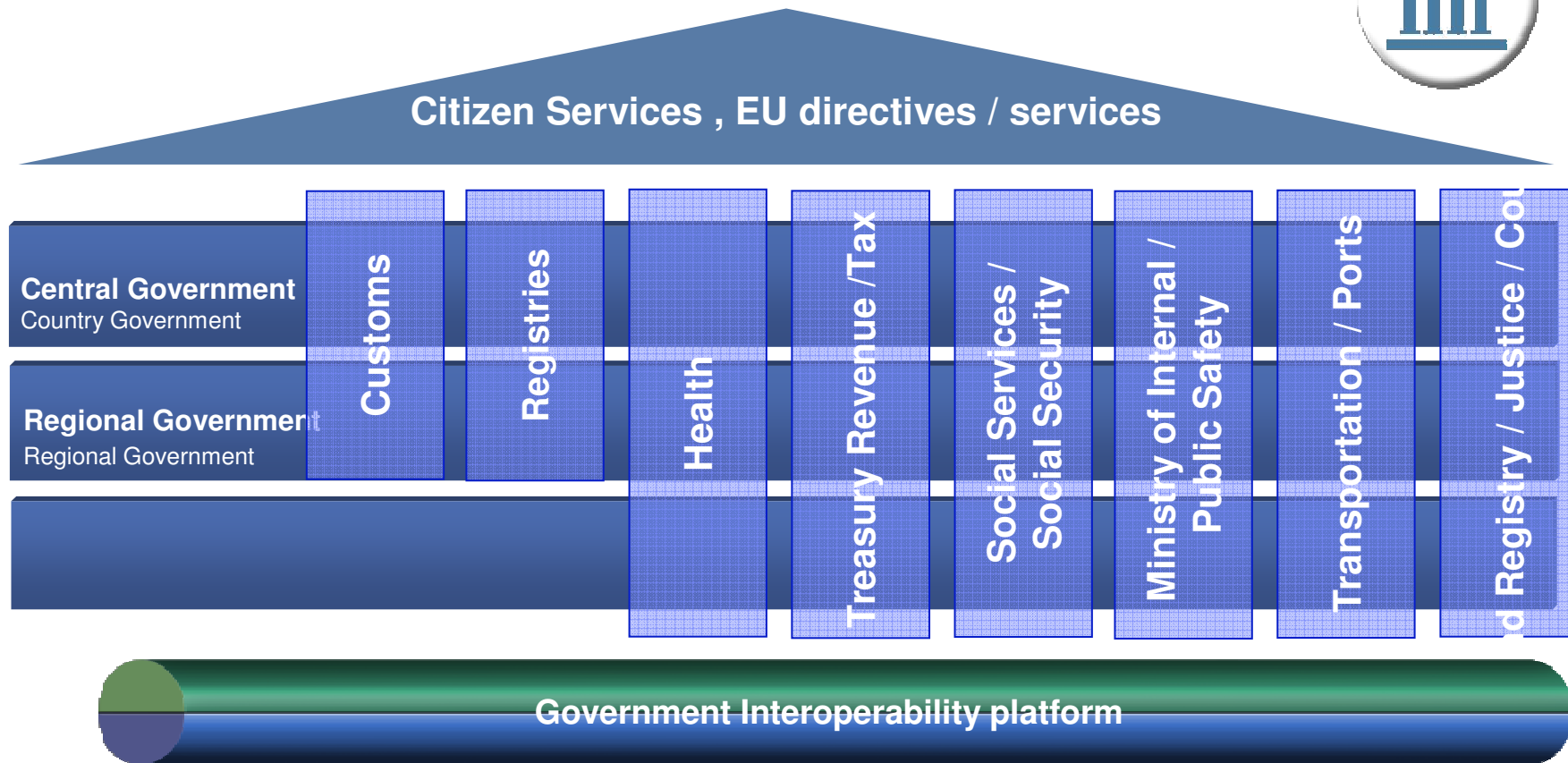
Center Edition Capabilities

Enterprise Service Management

Omnibus

Tivoli Monitoring

Tivoli Composite Applications Manager

Information Management

DB2 Encryption

DB2

InfoSphere Replication Server

Service Discovery

WebSphere Service Registry & Repository

UDDI

WebSphere Application Server UDDI Server

Network Manager

Cyber Security

IBM Internet Scanner

IBM Proventia Network Intrusion Detection

Rational App Scan

IBM Proventia NetworkScanner

Presentation

WebSphere Portal

Collaboration

Lotus Sametime

Lotus Forms

Service Consumer

Service Provider

SOAP HTTPS WSRP

Orchestration / Choreography

WebSphere Process Server

WebSphere iLog

WebSphere Business Events

Browser Clients

Security

DataPower (XI50)

Tivoli WebSeal

Internal

Tivoli Security Operations Manager

Tivoli Identity Manager

Tivoli Access Manager

Tivoli Directory

Adapter Specific

Direct Integration Consumers

Direct Integration Providers

Lotus Expeditor Client

Enterprise Service Bus

Lotus Expeditor Server

WebSphere Message Broker

DataPower (XI50)

Adapters

WebSphere MQ

WS, MQ, JMS, ...

WebSphere Adapter Framework

WS, MQ, JMS, ...

WebSphere & BI Adapters

Internal

Workbench Capabilities

ROLE BASED DEVELOPMENT

Data Architect	Data Architect
Business Modeler	Software Architect
Business Rules	ReqComposer
Business Events	Message Broker Toolkit
Forms	Integration Developer
Portlet Factory	Expeditor
Dashboard Framework	Asset Manager
App Scan	CC / CQ
Policy Scan	Performance Tester
Functional Tester	Service Tester

LIFECYCLE MANAGEMENT

REQUIREMENTS MANAGEMENT

ReqComposer

ReqPro

ASSET MANAGEMENT

Rational Asset Manager

CHANGE MANAGEMENT

Clear Case

Clear Quest

BUILD AND DEPLOY

Build Forge

RUNTIMES

Java

.NET

Proprietary

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The Levels & Business Segments of Government solutions
IBM Industry approach applies at all levels

Citizen Services , EU directives / services

Central Government
Country Government

Regional Government
Regional Government

| Customs | Registries | Health | Treasury Revenue /Tax | Social Services / Social Security | Ministry of Internal / Public Safety | Transportation / Ports | Land Registry / Justice / Cou... |

Government Interoperability platform

The Intelligent Operations Center Announcement June 6, 2011

IBM Intelligent Operation Center (IOC) V 1.0

Interconnecting physical systems and people through information and communications technology enables economic development for safe, efficient, sustainable cities

Smarter Buildings
- Schools, Hospitals, Homes, Office & Plants
- Energy, water, waste, emissions management
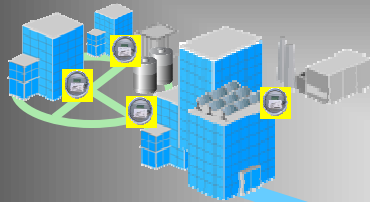
Smarter Public Safety
- Emergency response and communications
- Digital video surveillance, crime analytics

Smarter Water Management
- Water infrastructure management
- Resource planning optimization
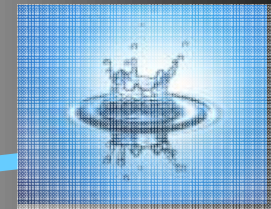
Smarter Government Services
- Social services, citizen and business interaction
- Case mgmt, visit optimization
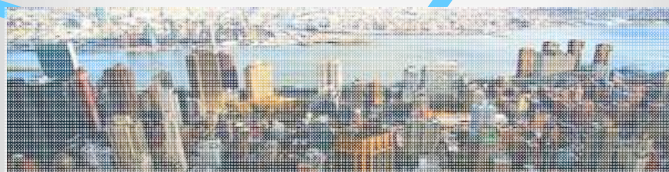
Smarter Regions – Operations Center
- Improved services, operations, safety, sustainability
- Incident Mgmt, Domain Correlation
- Emergency Response, Citizen Dashboards

Smarter Transportation
- Transport Information Management, Road User
- Congestion pricing, Integrated Fare Management

Smarter Energy Management
- Smart Grid, Electric Vehicles, Renewable Energy
- Intelligent Utility Network Communications & Security
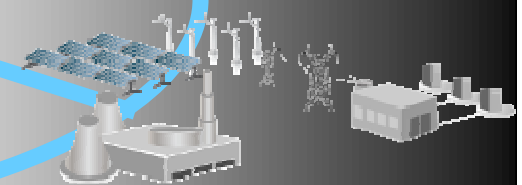
Intelligent Operations Center for Smarter Regions – Product Overview

Description:

- Provides a domain services request management system with Executive, domain Operations, and Agency dashboards that include domain KPI reports with trends and analysis of event and domain data.

- Centralized environment for planning, organizing, monitoring and sharing information continuously in response to changing conditions.

- Allows for drill down capabilities on details of service requests, team members and assets assigned and status – which is also available in a geospatial context for situational awareness.

- Provides for integrated collaboration within the views and as an element on the dashboard.

- Event and directive management is achieved through integrated incident management, reporting and collaboration & communication.

Customer pain addressed:

- Domain leaders today manage incidents and view KPIs / reports through disparate systems

- Lack of domain to domain coordination and collaboration in the planning and execution of events

Solution software key components:

1. Incident Reporting & Tracking

2. Situation Awareness & Reporting

3. Real Time Collaboration

4. Work Flows Management

5. Cloud Enabled

Intelligent Operations Center for Smarter Regions

The Intelligent Regions Solution Domains

IBM

Operations ✓

City-wide Dashboard
Geo spatial mapping
Data modeling & integration
Cross-Agency Collaboration
Situational Awareness
Domain Analytics
Event & KPI Management
Incident Management
Consequence Management

Transportation ✓

Data Integration
Traffic Prediction
Route optimization
Bus Arrival Prediction
Planning and Simulation
Road User Charging
Asset Management
Integrated Fare Mgmt
Multi-modal Mgmt
Revenue Management
Fleet Optimization

Public Safety

Video Surveillance
Crime Information
Predictive Policing
Dispatch
Cyber Security
Fusion Centers
Border Security
Communications
Emergency Response
Non-Emergency Response

Water

Work order optimization
Usage Analytics
Predictive Maintenance
Leak Detection
Flood Management
Smart Metering
Water Quality Mgmt
SCADA Security
Storm water Mgmt
Wastewater Mgmt
Asset Management

Governance Policy

Visualization

Analytics

Intelligent Operations Center

Predictive Systems

Modeling & Simulation

City Archives

Event Rules   *Semantic Models*   *Workflows*

Dashboards

Alerts

Reports/Analysis

Advanced Visual Features

KPIs   **Events**   **Directives**

Standards Based Interfaces

Service Bus

Domain Specific Interfaces

Gateway   **Gateway**   **Gateway**   **Gateway**

Data Integration

Water   **Traffic**   • • •   **Public Safety**   **Electric**   • • •

IOC Capabilities

Trigger Workflows

Event correlation detection

Incident Reporting & Tracking

Executive

Operator

Roles & Permissions

Realtime Collaboration Mails, Instant Messaging

Data drill down

IBM Intelligent Operations Center

Geo Context Information

Integrated System Monitoring

Click to

Progress Reporting

Data Export

Case scenario – citizen portal for incident tracking and reporting

Mayor Office
116 Cockpit

activities   Report

116 cockpit

Mayor

Real time reporting

Report

Call Center

Start process

Mayor Office

Citizen

Report/
Start process

Full Reporting

Portal

Process Engine

Business Activity Monitoring

GIS Monitoring

Problem addressed & resolved
Status OK

Enterprise Service Bus

IBM Intelligent Operations Center

Feedback
SMS/email

Feedback Engine

Electronic Content Management

BI Reporting

GIS MAP

22

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IBM Intelligent Transportation V 1.0

Key Value:

Traffic analysis capability to allow for better management of traffic , improvement of commuter experience, reduction of pollution and improve the ability for emergency responders and public safety officials to act quickly

Ability to aggregate information across multiple intra-city geographies/locales as well as information from a diverse set of data input source types and vendors

A data source agnostic , standard information model on top of which vertical value applications can be created with ease and with ability to scale

Ability to access historical and real-time information about all traffic performance, conditions, configurations and incidents

Customer Pain Addressed:

Existing traffic data systems, ATMS and TMC applications each cover limited intra-city geographic/locale scope

Integrations between traffic data systems, ATMS and TMC applications that function across the same city are either non-existent or limited

There is a diversity of traffic data systems in terms of types, vendors and data abstraction levels which is posing a great challenge to the creation of vertical traffic applications traffic flow optimization, improving commuter experience, pollution reduction & emergency response

There is no way to have city-wide visibility for traffic performance, conditions, configurations and incidents

Solution Software key components:

Standards based integration data capture systems

Traffic data model and repository

High-performance access to data for visibility, advanced analytics in built & add-on functionality

**Cloud Enabled**

Intelligent Water Management

Description:

Use EAM data to set up manual or automated scheduling of work crews to optimize maintenance and repair schedules based on type of work order, location, crew skills and equipment needed.

Display work orders by type (priority, season, failure code etc.) and visualize results on interactive map

Ability to use inputs of route, time period, crews and work order data to manually or automatically create optimal route for crews that minimizes travel costs and time

Ability to automatically leverage data on work orders to prioritize work and create optimal work schedule for work crews

Customer pain addressed:

Inefficient and uncoordinated work crew utilization and high operational expense

Poor prioritization of work order servicing leading to customer dissatisfaction

High backlog of work orders leading to delay in service and lowering quality of service

Solution software key components:

Advanced analytics and optimization algorithms

Visualization of data on GIS system

Generate and export reports and graphs

Cloud Enabled

© 2011 IBM Corporation

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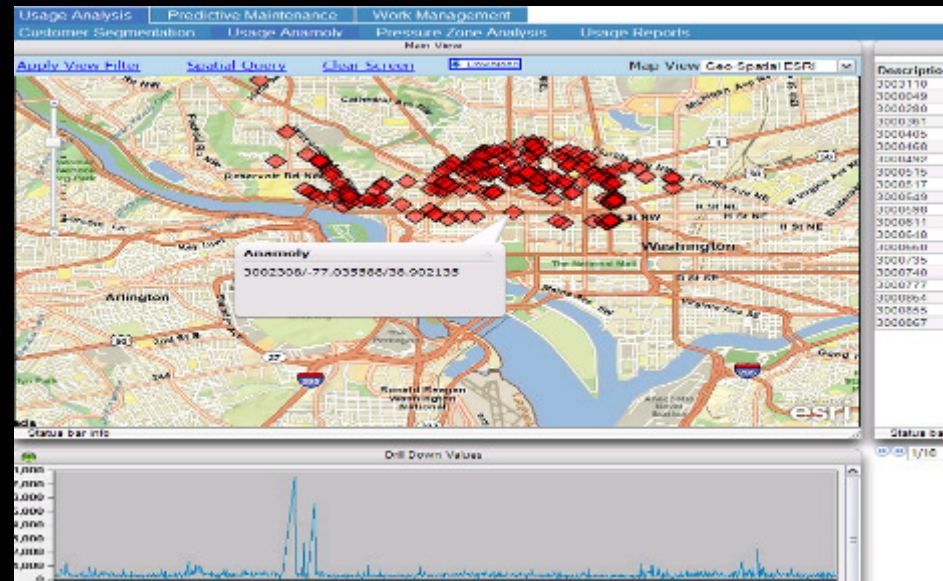
What can IBM offer to Country Government as starting point ?

- Think about visiting **IBM Government Solutions Excellence Centre in La Gaude (Nice – France)**
- Few day workshop where Government officials are briefed with latest technology and solutions that IBM is developing for Governments
- As an outcome a Government BluePrint could be produced which could be used as a roadmap of activities to establish felxible Government community
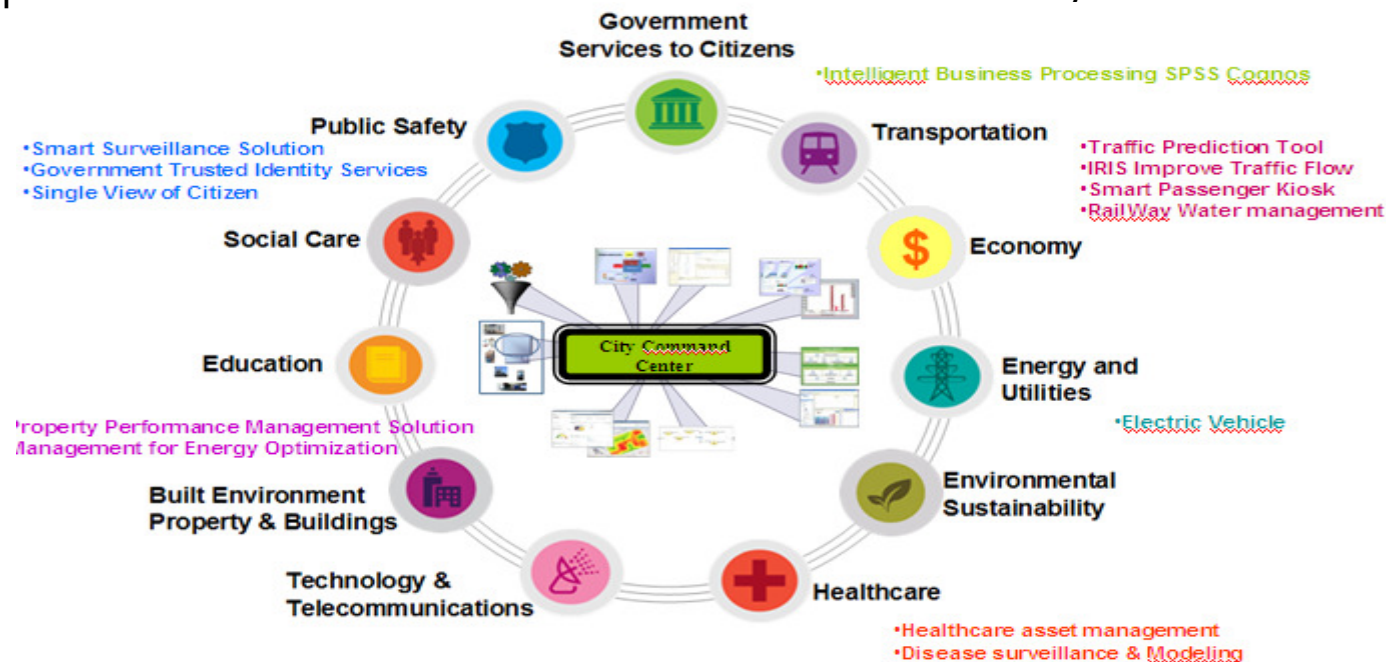
IBM is a Leading Government Solutions Provider

- Leader in Leveraging SOA and Information Management to Transform Government Organizations

- Global Delivery Capabilities

- Long Term Commitment to Industry Standards

- Strong Business Partner Network

- Industry Leading Software and Hardware

- Dedicated IBM Technology Research Professionals

IBM