The Cognitive Enterprise for Oracle ERP and SCM Cloud in State and Local Government

Powered by IBM and Oracle

IBM

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Contents

1

Finance and Supply Chain in the Cognitive Era

Turbulent Times Impact Government Organizations

Government Organizations are navigating turbulent times driven by unprecedented convergence of financial, technological, social and regulatory forces.

Impacts from the COVID pandemic are driving state and local government organizations to reshape their standard business architectures and business to reduce costs and capital spending, improve hiring and increase diversity, improve cash inflows, improve their constituent experience and increase cyber security.

"The COVID-19 health crisis almost instantly changed how the world works, bringing with it new security threats and challenges. As organizations work to find the path forward and emerge stronger on the other side, it's important to take stock of where we are and where we need to be."

SOURCE: Mary O'Brien
General Manager of IBM Security

As Cloud, Artificial Intelligence (AI), Automation, Internet of Things (IoT), Blockchain and 5G become pervasive, the combined impact of these technologies radically changes how government organizations create, deliver and capture value and how they move to a Cognitive Enterprise.

IBM is committed to our clients, helping them successfully transform to complete their journey to a Cognitive Enterprise.

What is a Cognitive Enterprise?

To understand what a Cognitive Enterprise is, it is important to understand a fundamental concept called- Business Platforms.

As organizations around the world describe their strategies in terms of platforms, they are anchoring to the idea of a “stage” or “field of operation” — an area where a range of unique capabilities can be deployed and where the organizations can seek to establish a control point over a range of value-creating activities. Thus, **Business Platforms differentiate an organization by combining data, unique workflows and expertise to drive competitive advantage and improve citizen experience.**

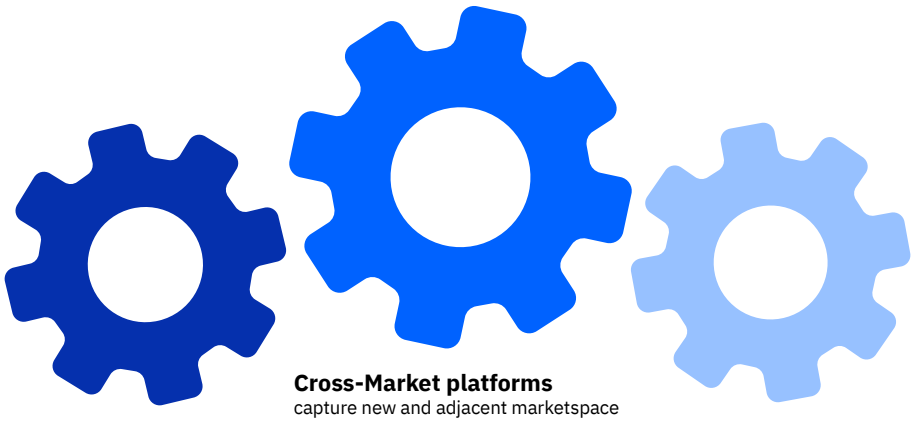
Such Business Platforms will often be underpinned by technology platforms and may connect into other ecosystem business platforms as well.

Imagine the **Cognitive Enterprise as composed of multiple business platforms**. One or more of these acts as the core or primary platform(s), providing key differentiation.

At IBM, we see government organizations placing bets on the creation of business platforms to solidify competitive advantage and differentiation. These platforms must be digitally connected from the outside-in and cognitively enabled from the inside-out.

Legacy IT infrastructures are often a bottleneck for agencies as they attempt to leverage AI and machine learning. Critical data locked in siloed systems is particularly problematic. To solve this issue, agencies can invest in modern technologies like the cloud or open platforms to better access both structured and unstructured data.

SOURCE: Delivering on Digital Government: Achieving the Promise of Artificial Intelligence Joint Report by Center for Digital Government, IBM and NASCIO



Internal platforms
enable operational competitiveness and make activities within the company more effective and efficient by using new technologies and skills

Cross-Market platforms
capture new and adjacent marketspace by managing essential or value-added processes on behalf of a broader ecosystem of partners that could be previously unrelated

Industry platforms
enhance the company’s relative market relevance and position by delivering key process capabilities on behalf of partners and potentially competitors

Figure 1: Types of Business Platforms

Inside the Cognitive Enterprise

Solving the problems caused by the pandemic will require a scalable digital framework that can support connectivity on a global scale.

SOURCE: IBM Market Development & Insights

A business platform is made up of capability layers, i.e. key aspects of business process or functionality, as highlighted in Figure 2 below. Each of these capability layers is subject to major transformation with a huge potential for State and Local Government Organizations. Providing State and Local Governments with the opportunity to restructure their cost basis for the long term.

Improving the lives of citizens, meeting elevated demands for service, enhancing economic vitality and mitigating evolving threats are just some of the challenges government leaders face today.

While State and Local Government Organizations have always relied upon data to address their challenges, the Cognitive Era requires government organizations to adapt, evolve and build digital capabilities that aggressively increase the speed of insight and transform their service delivery models.

Although government organizations are the largest producers of data, they have been significantly challenged to effectively leverage this data to create meaningful and actionable insights.

Data contained within systems of records are typically constrained within silos, while new data sources from social media, sensors, cameras and the like are only situationally used while growing exponentially.

The Cognitive Enterprise platform changes this paradigm by enabling Government Organizations to access and analyze vast streams and sources of disparate data, creating insight and applied learning at speed. Cognitive technology augments human-based intelligence with deep data-driven insights, allowing State and Local Governments to improve operational efficiencies, deliver enhanced citizen-centric services, and advance economic conditions.

The Cognitive Enterprise platform turns data into insights, enhances program outcomes, mitigates threats and, most importantly, improves the quality of life and economic vitality for the citizens and communities they serve.

The Cognitive Enterprise enables the future technology and business platform that will support Government Organizations in the delivery of services and processes, establish best practices, and significantly improve the efficiency of their service deliver while maximizing use of resources.

State and Local Finance and Supply Chain Evolution in a Cognitive Enterprise

– Imagine a world where government services are co-created in an open, trusted and transparent ecosystem

– Blockchain will revolutionize how government services are created, bundled and governed

SOURCE: "Making Blockchain Real for Government", IBM

The use of Blockchain across industries or business networks will accelerate the sharing of data throughout the ecosystem driving smarter self-learning cognitive systems, behavior analytics and pattern recognition.

Government processes can be digitally reinvented and streamlined across a broader ecosystem of trusted collaborative partners.

The capability of Blockchain to store data from multiple sources will encourage the sharing of sensor information from the Internet of Things.

Blockchain provides a **consistent, transparent and open** view of activities, information and decisions, fueling the **open innovation** and **digital reinvention** of government services.

Blockchain will **digitally reinvent** existing government processes transforming government itself into a **trusted partner** within a wider collaborative ecosystem that can include vendors, constituents, financial institutions and other government and regulatory agencies.

Three ways Blockchain revolutionizes how government organizations delivery services:

1. Co-created services — Disparate, top down service delivery processes will be replaced by a seamless process that empowers citizens and government organizations to co-create the types of services citizens want and need.

2. Self-governed services — Centralized government control will be replaced by oversight of self-regulated service delivery ecosystems.

3. Integrated services — Centralized systems and disparate data silos will be replaced by a shared distributed data base that provides a secure and immutable version of the truth that is open to use by all ecosystems stakeholders.

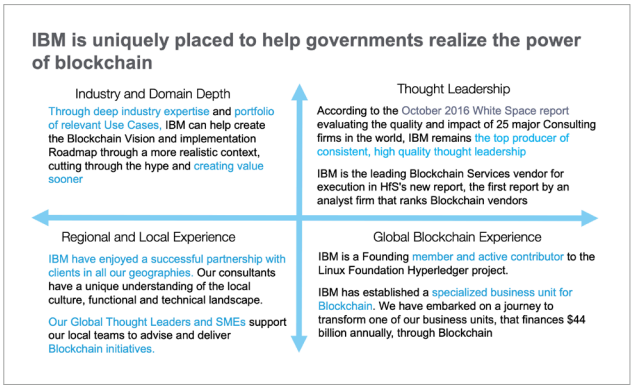


Figure 2: IBM Blockchain Capabilities

Artificial Intelligence and Automation: With IBM + Watson

State & Local Government entities are turning to emerging technologies like chatbots to create faster, more secure, and consistent citizen engagement.

SOURCE: IBM Market Development & Insight

As the world becomes more populous, complex and external threats more prevalent, the work of government organizations at all levels becomes more challenging. IBM's Government Practice is creating Cognitive solutions to help leaders leverage new business models, innovative capabilities and utilize the wealth of data available to build a robust and efficient public infrastructure, ensure safety and security, support the needs of individuals, facilitate sustainable economic growth and nurture stronger communities.

IBM Government with Watson™ **transforms citizen experiences** via cost-effective personalized advice, increasing citizen satisfaction and community engagement.

Watson **amplifies inherently human abilities**, delivering better services and helping organizational staff to make optimal decisions.

Watson performs the role of trusted assistant to help human expert analysts and investigators **discover information** most relevant to a line of inquiry.

We believe AI will have a profound impact — enabling governments to become intelligent enterprises and provide higher-quality services faster and more efficiently.

SOURCE: Delivering on Digital Government: Achieving the Promise of Artificial Intelligence Joint Report by Center for Digital Government, IBM and NASCIO

Automation has a long and storied history dating back more than 5,000 years.

Today, advancements in artificial intelligence are spawning a new phase of automation: **intelligent automation**.

Intelligent automation is changing the way enterprises operate by using advances in technology to optimize processes, personalize customer experiences, and enhance decision-making.

Pressure to do more with less, improve efficiency and reduce cost while meeting citizen needs is challenging government agencies. Intelligent Automation (IA) meets this challenge by transforming work while enabling the workforce.

Common challenges automation can help solve include: Lowering cost, Managing large and repetitive transaction volumes, Shifting to higher value work, Quality control issue, Constrained budgets, Improving user experience and process.

Intelligent automation applies data to transform the way work is performed to solve business problems. By combining traditional Robotic Process Automation (RPA) with Artificial Intelligence (AI) and Machine Learning (ML), Intelligent Automation can address complex business process workflows to optimize processing and operations for the purpose of driving efficiencies, increasing organizational resiliency, enhance decision making and strengthen security and compliance.

Proof Points:

- A large agency was able to automate the audit process of a travel program with up to 95% accuracy.
- A large human resource software company automated on-boarding processes resulting in 88% reduction in time.

SOURCE: IBM Intelligent Automation: A Case for Change

2

Enterprise Resource Planning (ERP) Challenges

In a recent survey for CFO Magazine when asked about the state of their finance function's technology, most of the respondents — a combined 63% — describe it as "inefficient," "silo constrained," or "not linked to decision-making."

SOURCE: CFO Magazine

This section and the following sections highlight governmental challenges and detail how the IBM Cognitive Enterprise Business Platform addresses these challenges via IBM and Oracle's focused solutions for State and Local Government Organizations.

The graphic on the following page highlights major challenges impacting government organizations. Sections 3 through 11 reference the Primary and Secondary Challenges from this study addressed by each Cognitive Enterprise solution area. Primary Challenges are those directly impacted by the solutions. Secondary Challenges are those that indirectly benefit from improvements/ efficiencies related to these solutions.

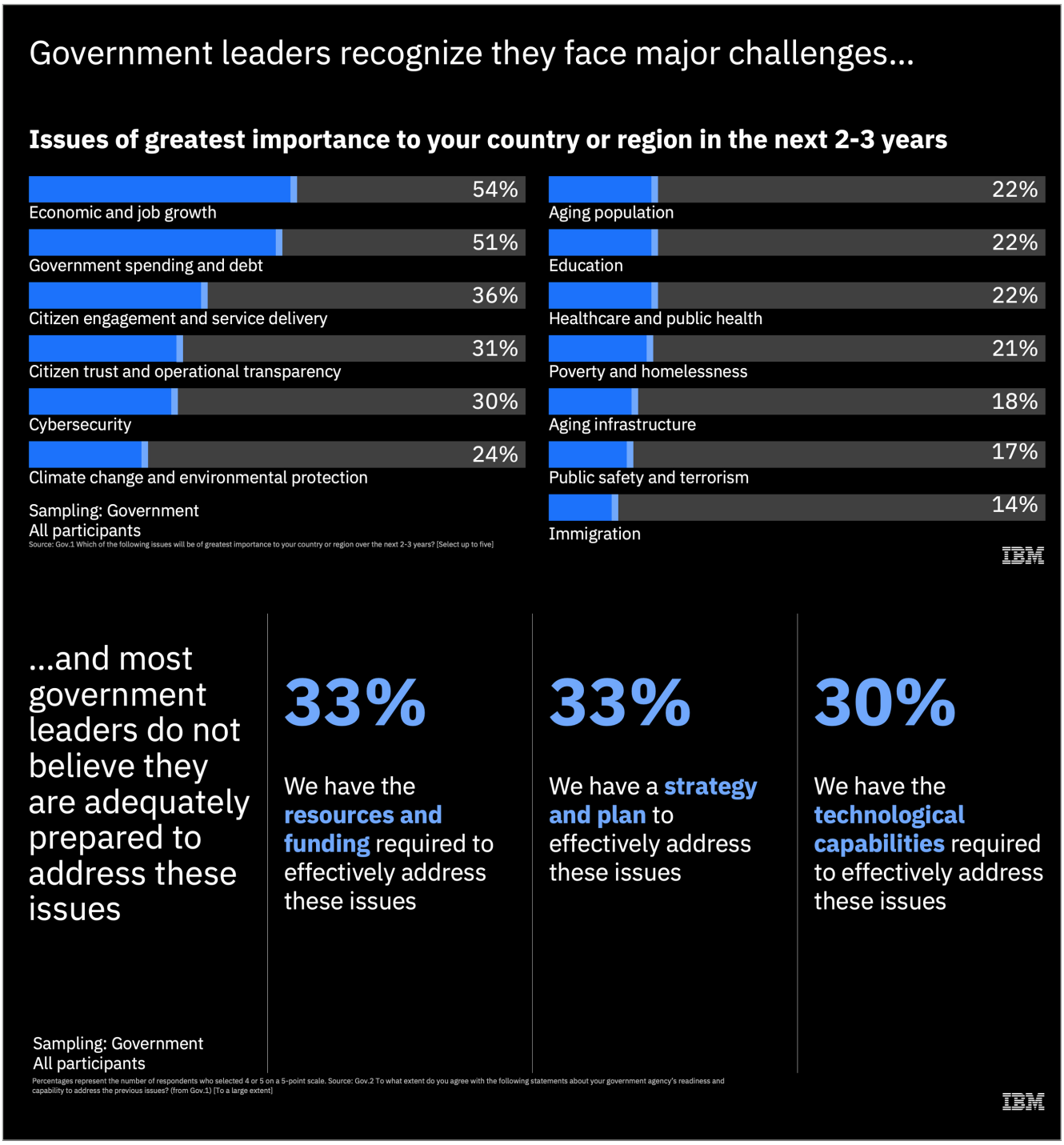


Figure 3: Government Leaders survey results from IBM Global C Suite Survey

Project Management and Execution (Section 3)

Business Challenges:
Running hundreds or thousands of projects and programs lead to complexity in managing the progress and scope of projects to be monitored.

Ensuring the costs associated with those projects are accurately and efficiently recorded is critical in enabling financial planning, financial reporting and the federal and/or third party grant/contract compliance required for reimbursement.

Significant effort is often required to monitor project regulations, costs and performance metrics against budgets and targets. This is compounded by ongoing changes to project scope, resources and schedules. Additional challenges exist when addressing new and evolving programs such as those created in the Federal Cares Act and other on-going legislation and administrative rules related to the pandemic response and related economic recovery activities.

Fraud Prevention (Section 4)

Business Challenges:
Recently more and more complex schemes are targeting State and Local Government organizations in attempts to perpetrate Fraud related to payments issued as part of government programs and/or government procurement activities. Occurrences of Fraud reduce public trust and increases the Government's costs.

Supplier Management (Section 5)

Business Challenges:
Sourcing from suppliers can be a bureaucratic process, with data maintained about suppliers locally and research carried out at time of sourcing. This can often be unreliable and lead to poor decisions based on incomplete data sets about suppliers.

Invoice Matching and Payment Management (Section 6)

Business Challenges:
Significant effort is often required in matching of invoices to the correct purchase/task orders and/or receipts as well as early identification of exceptions.

Poor results in matching can lead to manual intervention as well as the loss of discounts or disruption in the supply chain from slow or nonpayment. In turn, this can result in an additional overhead of managing queries from suppliers.

Additional burdens placed on the Accounts Payable and Supplier Management department can lead to delayed payments and missed opportunities to take discounts.

Cash Management and Collections (Section 7)

Business Challenges:
Multiple options are now available to customers in how they pay for goods and services. This introduces complexities in the reconciliation and security associated with cash receipts. Early identification of any loss or potential fraud is critical.

Many government organizations face complex cash management processing driven by a high volume of cash receipts and payments received from customers as well as challenges in reconciling these transactions.

Efficient Period End Close, Financial Reporting, Reconciliation and Consolidation (Section 8)

Business Challenges:
Multiple systems and participants often result in complicated processes to manage the financial close at period end.

Financial reporting including such areas as revenue recognition and expenditure accruals are complicated by different ledgers and basis of accounting required to meet various financial and statutory reporting requirements.

Government organizations often have sophisticated legal, reporting and managerial structures to support their operations which can result in high volumes of interfund and intergovernmental activity.

Movement of staff, resources, inventory and assets between different funds and entities especially in the form of Shared Service Delivery Models result in the need for interfund and intergovernmental cross charging, which often leads to large volumes of intergovernmental transactions to be initiated and reconciled.

Another key element of efficient financial reporting is managing the level of detail that needs to be maintained within the General Ledger especially for external financial transactions being integrated directly into the General Ledger where historically detailed subledgers have not existed in a single financial system.

New Accounting Standards (Section 9)

Business Challenges:
GASB and other regulatory agencies appear to be issuing new Accounting Standards at a greater and greater frequency. Legacy ERP and Financial Systems may not have the capabilities to meet these complex new standards such as those mandated in GASB 87 for Lessee and Lessor Accounting within the required implementation timeframes.

New financial reporting and other requirements often lead to pressure to conduct revisions to the Government's existing chart of accounts structure. Managing the transition between the historic structure and new structure can require significant re-mapping and reconciliation work not only for the GL but all sub-ledger related transactions.

Budget and Planning (Section 10)

Business Challenges:
Continual budgeting and forecasting are a critical financial planning activity in any organization, but particularly in State and Local Government Organizations.

Sophisticated short, medium and long-term planning tools are needed to support strategic decision making and enable potential changes to be assessed based upon different scenarios and outcomes.

The unprecedented economic impact of the pandemic being felt by many State and Local Government organizations multiplies the demand for powerful planning, budgeting and forecasting capabilities including the ability to implement budgetary-based spending controls.

Organizational Transformation (Section 11)

Business Challenges:
Many State and Local Governments are being faced with growing structural deficits caused by growing costs to provide existing services as well as new programs created through increases in unfunded federal mandates. Also in many cases, State and Local Government organizations are increasingly experiencing staffing turnover in key positions and loss of institutional knowledge. These are some of the many key factors driving more and more State and Local Government organizations to look for improvements in operational effectiveness and efficiency through Organizational Transformation.

3

Project Management and Execution

Primary Challenges:

- Government spending & debt
- Citizen engagement & service delivery
- Citizen trust & operational transparency

Secondary Challenges:

- Economic & job growth
- Climate change & environment protection
- Education
- Healthcare and public health
- Poverty and homelessness
- Public safety and terrorism

"Project financial management goes well beyond simply planning, capturing, and managing costs on individual projects. It must also address the customer's need to maintain a balance between the project investment and the expected benefits or returns associated with that project, ..., and the overall impact on their business results."

SOURCE: Wilson, S. & Schwartz, C. (2011). Powerful project financials. Paper presented at PMI® Global Congress 2011 www.pmi.org/learning/library/powerful-project-financials-6339

Managing projects which run for short periods or for many years is a common consideration for many State and Local Government organizations. Maintaining what can often be a varied range of projects whether in terms of length, value or complexity means having to enable sophisticated master data and reporting tools to structure your projects and then manage the costs and billing associated with those projects.

Oracle Project Portfolio Management (PPM) Overview

Oracle's Project Portfolio Management provides a complete suite of applications to manage projects, record details and manage financial aspects. Modules available include Project Financials Cloud, Project Contract Billing, and Grants Management. PPM is completely integrated with Oracle's wider financial and procurement capabilities as well as providing standard out of the box integration with Oracle's broader EPM planning and reporting tools.

Specifically, this allows you to:

- Maintain complex projects and work breakdown (WBS) structures while aligning these with your broader enterprise structure to support reporting.
- Use configurable workflows to manage the approval and automate the capture of costs and commitments against your project and WBS using purchase requisitions.
- Define and maintain budgets and forecasts against your project that enables controls over spend.
- Automate the billing and associated accounting to customers for work carried out as part of a project or program of work.

Some of the specific capabilities of ***Project Portfolio Management*** are described below:

- Microsoft Projects type capability, including resource assignment and interactive Gantt charts
- Exception based progress threshold management
- Integration with Oracle Sourcing to allow you to initiate RFx events
- Visibility of resource capacity and planned utilization
- Management of plans collaboratively between multiple participants
- Access to real time reporting of project progress

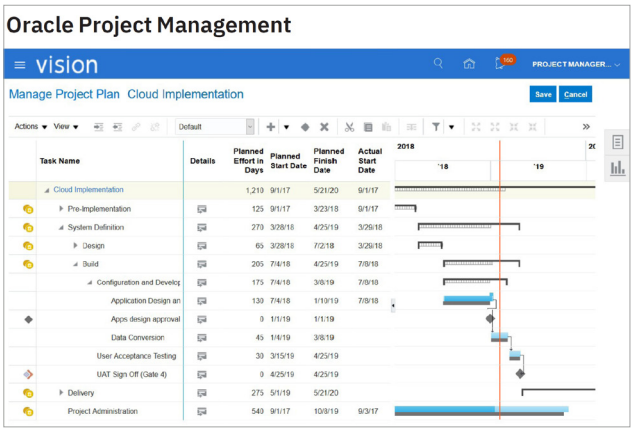


Figure 4: Oracle Project Management Gantt Chart

Oracle Project Financial Cloud is the primary mechanism for tracking and reporting project costs and revenue providing:

- Complete integration into the wider ERP and HR suite including finance, procurement and HR for capturing time and labor costs for both internal employees and contractors
- Automated integration with Oracle Assets, capturing construction in process and final creation of the asset(s) on completion
- Budgeting and forecast management which can be integrated with EPM or uploaded from Excel, if required
- Real time reporting of project actuals vs budget and forecasts allowing you to view your project costs whether in Oracle or using sophisticated 3D reporting tools like Smart View
- Generate and report on key performance indicators using embedded dashboards

Oracle Project Contract Billing is the primary mechanism for managing billing and revenue on projects that deliver complimentary services on behalf of related third parties or directly to customers. Specifically, it provides:

- Complete integration into the wider Oracle ERP Cloud enabling automated billing, collections via AR and configurable accounting rules to support complex revenue and cost recognition requirements.
- Templated Contracts including terms and conditions which allow speedier, standardized creation of new customer contracts.
- Flexible Invoice management including automated billing and the ability to independently bill outside of the constraints of the plan milestones.
- Real time reporting and analysis of billing against cost profile and revenue status.

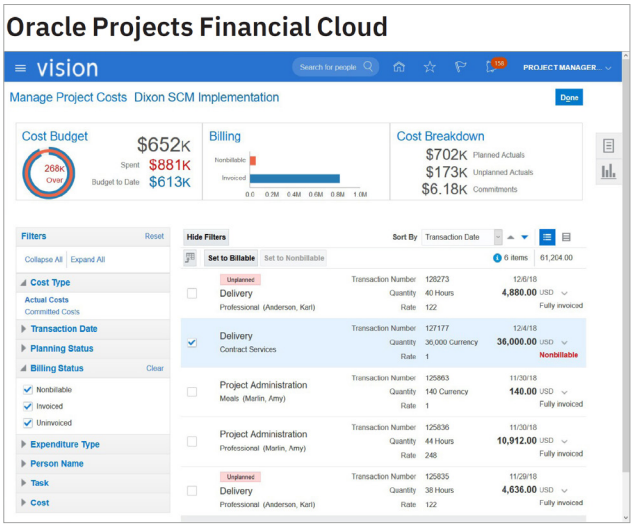


Figure 5: Oracle Project Cost Dashboard

IBM Project Financials Portal

IBM Project Financials Portal provides a comprehensive layer, on top of Oracle Project Portfolio Management, for analysis of key project financial elements such as costs, revenues, billing and unbilled transactions or work in progress with a full project centric view from planning through to collections. This tool:

- Enables multi-tiered analysis of project financial performance
  - Incurred: Evaluates performance on an accrual basis for financial reporting
  - Committed: Assesses current exposure to liquidation value, incl. damages
  - Cash: Appraises project cash flow and actions required to remain cash-positive
  - Budgeted: Forecasts financial results based on current or project-end date with
  - predictive analytics
- Facilitates parameterizable analysis based on financial criteria
  - Filters by customer, manager, portfolio grouping, project type and period range
  - Provides selection/ exclusion parameters for expenditure, billing event and budget type
  - Reports at a summary or detail level with drill-down to underlying transactions
  - Provides predictive analytics to extrapolate expected results based on historic performance on similar projects

Oracle Project Management Dashboard

The ***Oracle Project Management Dashboard*** provides an end-to-end application configuration and administration process to:

- Enable Project, Financial and Team Managers to perform their day-to-day monitoring tasks quickly and more efficiently.
- Utilize Dashboard Infolets to highlight exceptions, performance measures and identify key actions required to bring projects back on track.
- Manage the entire project lifecycle from planning, scheduling, costing and revenue from a single location.

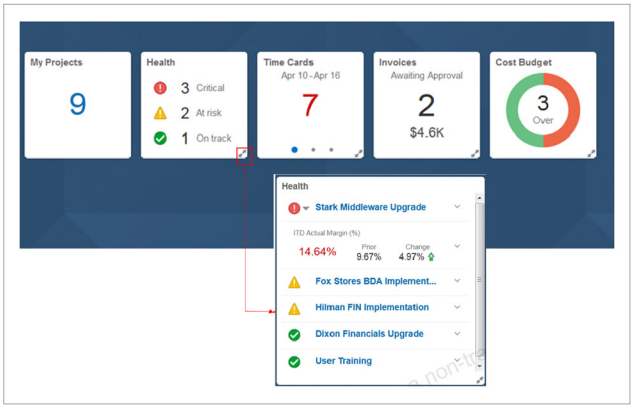


Figure 6: Oracle Project Management Dashboard

Oracle Project Financials Reporting

Oracle Project Financials Reporting provides multiple methods/ tools for reporting, with each method delivering the best match for efficient and relevant reporting within a specific area — this addresses the diverse needs of management reports, financial analysis, transactional intelligence and statutory reporting.

- Financial Reporting Center delivers boardroom-quality management reports based on live project balances and hierarchies. With interactive analysis with the report through filtering, expansions and drilldowns for comprehensive understanding of project performance.

- Smart View is an Excel-based analysis tool, for financial analysts who need to quickly define financial reports and ad hoc queries within an Excel-based tool. Smart View is directly integrated to Oracle Cloud PPM Project balances in real-time.

- Transactional Business Intelligence (OTBI) is designed for operational users who want to create their own custom queries, reports, dashboards, charts and graphs to aid in daily decision making, based on real-time transactional data in Oracle Cloud PPM.

- BI Publisher is ideal for high volume, specifically formatted transaction-based reports, that provide details of current operational data and formatted documents including invoices, shipping labels, government forms, EFT / EDI files and checks.

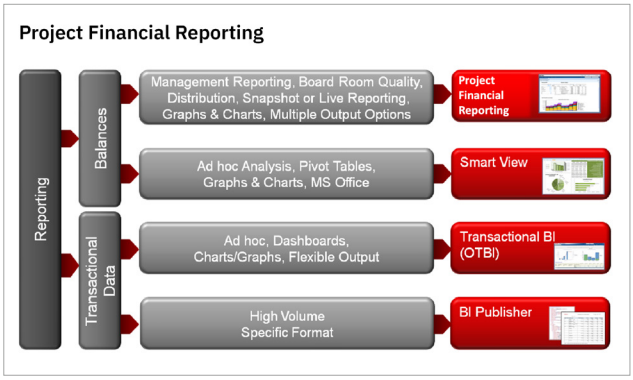


Figure 7: Project Financial Reporting

Federal Billing Platform for State Governments

States and State Agencies are required to integrate with multiple different Federal Agencies and Programs across different systems, layouts and billing requirements. A single State may receive federal funds from over twenty different federal agencies. Also, a single federal agency may have multiple divisions that utilize unique federal billing systems and layouts.

The historical approach of building one-off individual integrations for different federal cognizant agencies and their supporting systems has proven costly and inefficient.

Based on this, IBM has built a common Federal Billing Platform in Oracle Cloud Infrastructure including the following common elements that will be shared by each integration:

- Common Oracle BI Publisher Reports extracting required information from Oracle ERP Cloud Grants Management, Project Portfolio Management & Financials.
- SQL Rules Engine serving as a common billing related pre-processing service to define and execute rules for each source grant, project or agency.
- Common output layouts to support grant and capital project billing.
- Standard User Interface Dashboards summarizing Federal Billing by Federal Agency and Individual Grant/Project.
- End to end automated orchestration of each integration using Oracle Integration Cloud.

Oracle Cloud Infrastructure (Oracle's Platform as a Service) offers Oracle Integration Cloud to integrate Oracle ERP Cloud with other systems using inbuilt technology adapters, SaaS adapters, and On-Premise adapters. Integration Cloud is a browser-based application integration product with rich orchestration and transformation capability.

Oracle Cloud Infrastructure is a category of cloud computing service that provides a platform allowing organizations to develop, run, and manage applications without the complexity of building and maintaining the infrastructure associated with developing and launching an app.

4

Fraud Prevention

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency

Secondary Challenges:

- Citizen engagement & service delivery

In the Global Economic Crime and Fraud Survey 2020, 56% of US respondents experienced Fraud in the past 24 months, an increase of over 20% since the initial survey in 2009.

"Fraud Waste and Abuse (FWA) leads to improper payments, which refer to the financial losses that undermine program integrity. Typically, improper payments are defined as avoidable payments that are not mandated by statutes, regulations, and court orders. Addressing the problem with cognitive computing can enable better decisions through real-time understanding of key information found in large and distributed data sets. Instant analysis enables governments to stop payments before they are made, significantly reducing the amount of fraud and the costs to recover."

SOURCE: IBM Center for The Business of Government, "Understanding Cognitive Counter-Fraud Waste and Abuse".

State and Local Government Organizations are in the business of delivering on the promise of trust to stakeholders. Dealing with fraud adds time and expense, while reducing trust systemically.

Oracle ERP Cloud Accounts Payable and Payments

Oracle ERP Cloud Accounts Payables and Payments modules include robust invoice approval, invoice validation, disbursement approval, disbursement verification, encryption procedures and audit controls.

Supplier/Vendor Creation Controls:

Supplier Self-Registration: The supplier will maintain their own vendor record, removing access to sensitive information from internal team members that only need to pass that information to Accounts Payable. With vendors maintaining their own vendor registration, there is less potential that a new vendor will be setup when changes are requested.

Duplicate Supplier Check: ERP Cloud Finance and Supply Chain Management performs a duplicate prevention check for new supplier requests before submission. A new Supplier Request in Self Service Procurement can be configured to require key supplier identification information (one of three attributes: Taxpayer ID, Taxpayer Registration Number, or D-U-N-S Number). This ensure users are alerted to existing duplicate suppliers and prevented from submitting unnecessary requests.

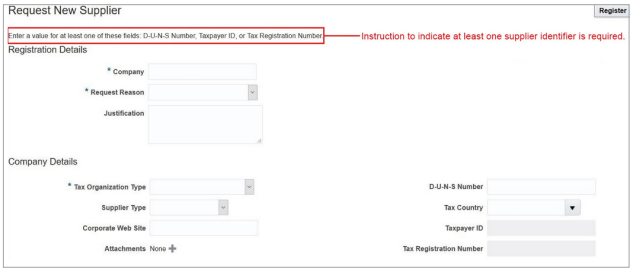


Figure 8: Oracle Request New Supplier

Approval Rules for Supplier Spend Authorization: To ensure that only authorized suppliers are enabled to conduct business with your organization, a robust approval capability can be implemented. When creating approval rules for supplier spend authorization, you can now use supplier descriptive flexfields, products and services categories as rule condition attributes.

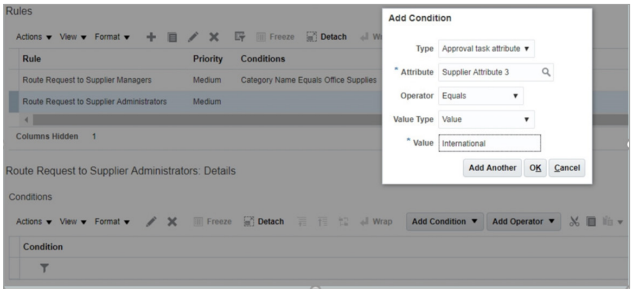


Figure 9: Oracle Request New Supplier

Supplier Audit Control: Use this tool to help identify potential duplicate suppliers. For example, you enter a supplier named Oracle Corporation, and another supplier named Oracle Corp. After you have identified duplicate suppliers, you can combine them using Supplier Merge.

Invoice Controls:

Duplicate invoice check: It is at Supplier, Business Unit, and Invoice # level that the duplicate invoice check occurs, even if a unique combination Supplier-Site is different the system will refer a potential duplicate invoice.

Approval Workflow: You can configure predefined workflows to manage invoice approvals. When the invoice approval process starts, a workflow builds the list of approvers based on the defined rules.

Payments Controls:

Disbursement Processing: The disbursement process starts when a source product calls Oracle ERP Cloud Payments. Electronic processing creates a payment file that is transmitted to a payment system or other financial institution. The file contains instructions that tell the payment system or financial institution how to remit funds.

Invoice and Payment Validations: You can assign predefined validations to a payment method or create user-defined validations. In payment processing, it is critical that payment files sent to payment systems and financial institutions are valid and correctly formatted. If this is not done, the payment process is slowed, which results in additional time and cost due to problem resolution. Validations are rules that check the validity of invoices, documents payable, payments, and/or payment files. You use validations to ensure that disbursement transactions, such as invoices, payments, and payment files meet specific conditions before they can be paid.

Payment Approvals: Payment approval allows management to control payments by prioritizing available funds. You can send payments to approvers for review before final payments are made to suppliers or employees.

Encryption: You can secure both outbound and inbound messages using payload security. Payload security is the securing of payment files and other files using payment file encryption and digital signature based on the open PGP standard. You can update existing transmission configurations to use encryption and digital signature for your existing connectivity with banks. You can also secure payment data using secured transmission protocols, such as SFTP or HTTPS.

Payment Audit Controls: You can audit specific business objects and attributes in Oracle Cloud Payments to monitor user activity and data changes. Auditing includes recording and retrieving information pertaining to the creation, modification, or removal of business objects. All actions the user performs on an audited business object and its attributes are recorded by the application and logged in a table.

IBM Risk and Compliance Intelligent Workflow

In many cases, the current approaches of State and Local Government organizations to fighting fraud, waste, and abuse as well as managing compliance are fragmented, inefficient, and costly — relying on siloed functions, manual processes, outdated technology, specialized talent, and financial repercussions for compliance shortfalls.

IBM Risk and Compliance Intelligent Workflow combines integrated cognitive assets, automation, advisory insights, and managed services — in a "compliance by design" approach with a tight, end-to-end security layer to handle highly confidential client engagements with confidence.

We have developed a platform for Risk and Compliance managed services that combines our key capabilities starting with alert and case investigation processing with an ever expanding ***IBM Risk and Compliance Intelligent Workflow*** offering.

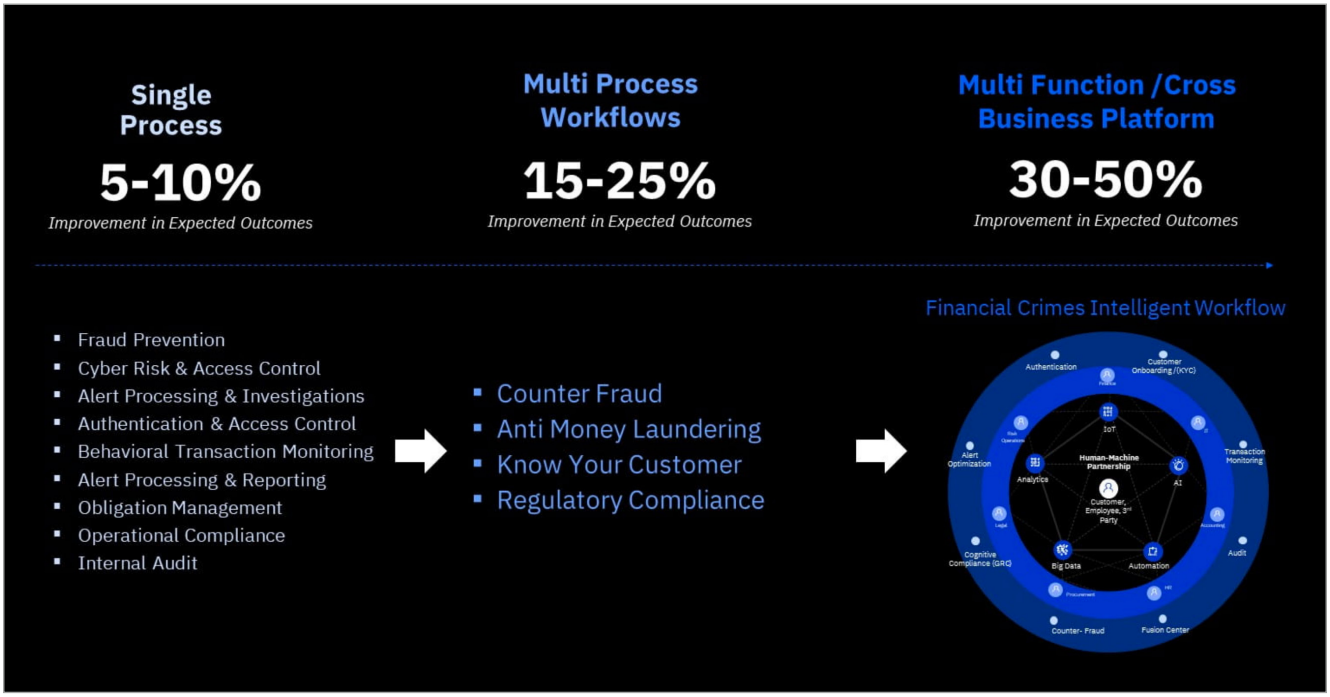


Figure 10: Expected Outcomes of deploying Risk and Compliance Intelligent Workflow offerings

Oracle Advanced Financial Controls (AFC) Cloud Service:

AFC replaces inefficient manual audit and sampling practices with automated controls to identify and remediate incidents. State and Local Government organizations can deploy best-practice controls to upgrade their processes or graphically create custom controls.

The Oracle Risk Management Cloud Component ***Advanced Financial Controls (AFC) Cloud Service*** enables continuous monitoring of all expense and payables transactions in Oracle ERP Cloud for:

- Identification of potential cash leakage including Fraud, Waste and Abuse (FWA) — by identifying missed opportunities due to inefficient processes, inadvertent human errors, and willful fraud.
- Improved Compliance and Governance — by continuously monitoring for violations.
- Early detection of Potential Issues — by auditing transactions before commitment.
- Optimization of Business Processes — by identifying groups of exceptions due to issues such as unclear policies or inadequate training so the issues can be promptly addressed.
- Defense Against Insider Threats — such as abuse of super-user privileges or violation of segregation of duties.
- Management of Exceptions by Collaborating Effectively (Dynamic Modeling and Integrated Incident Management) - Worklists and notification alert designated users as soon as suspicious transactions or patterns are identified, facilitating prompt analysis and necessary actions.

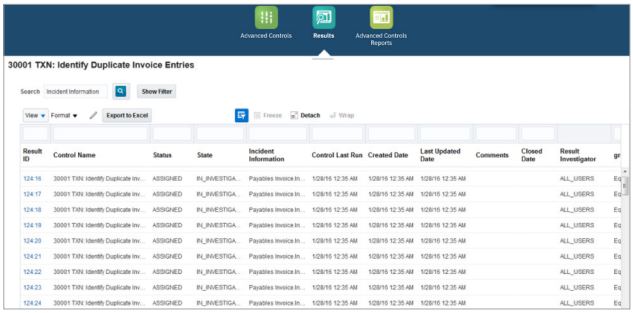


Figure 11: Oracle AFC Duplicate Invoice Controls

Source: Oracle Advanced Financial Controls Cloud Service — Oracle Data Sheet

5

Supplier Management

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency

Secondary Challenges:

- Citizen engagement & service delivery

"Using cognitive capabilities embedded within procurement, IBM experienced a USD $65M saving year on year in 2017 and expected a similar saving to be achieved in 2018"

SOURCE: IBM Institute for Business Value Cognitive Procurement: Seizing the AI opportunity.

Many government organizations struggle with maintaining an accurate supplier records with up to date vendor information including up to date contract performance and without duplicate records. IBM cognitive tools paired with blockchain can address these challenges.

IBM's Supplier IQ and the blockchain-based ***Trust Your Supplier (TYS)*** integrate cognitive sourcing, selection and qualification capabilities to enable the following:

- Model and track supplier sourcing activities from requisition through to contract using applications and data integrated with the core ERP.
- Use cognitive tools to inform and support better decision making around supplier selection.

There are significant opportunities within the government sector for an expansion in Blockchain. Blockchain's shared, replicated, and permissioned ledger is the solution to ensure consensus, provenance, immutability, and trust.

IBM Supplier IQ:

IBM Supplier IQ is a procurement insights solution using big data and analytics to measure supplier performance and support sourcing decisions.

It provides a suite of data that helps procurement professionals make informed decisions based upon market data, makes them less reliant on the responses that would typically be received via an RFx, and removes the need for time consuming research.

It enables Government employees to improve productivity and decision making, by providing:

- Comprehensive company profile assessments based on aggregated data from internal and external sources.
- Analytical Insights which provide KPI benchmarking assessments.
- Analysis of unstructured data such as news reports and general market analysis to drive decision making.

Using ***IBM Supplier IQ*** can help government organizations quickly get a more rounded picture of the suppliers it is considering for contract award or other procurement events. It provides a suite of data that helps procurement professionals make informed decisions based upon market data and removes the need for time consuming research.

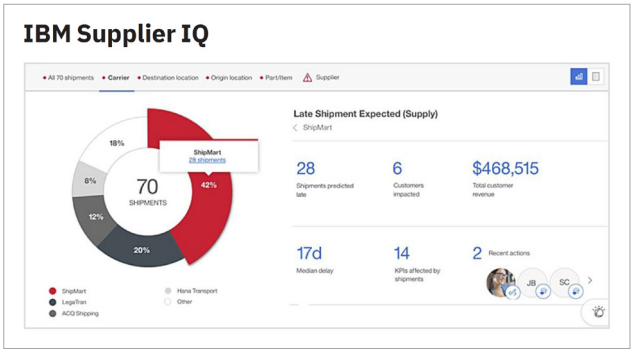


Figure 12: IBM Supplier IQ Dashboard for a Supplier

IBM Trust Your Supplier (TYS) Digital Identity Platform:

IBM Trust Your Supplier (TYS) simplifies and accelerates Supplier Onboarding.

TYS is the trusted source of supplier information and digital identity that simplifies and accelerates supplier onboarding and lifecycle management.

- Eliminates redundant submission of the same supplier information to different buyers
- Reduces time to first transaction
- Incorporates key supplier information verified by trusted third parties

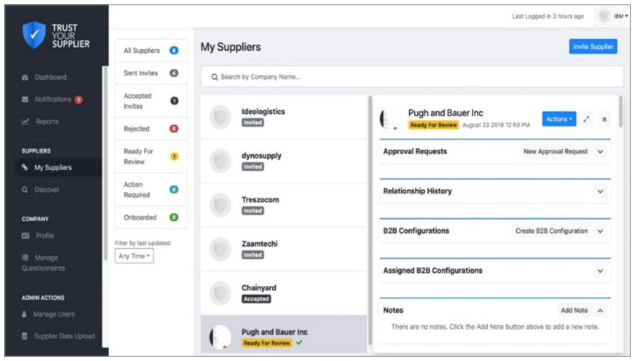


Figure 13: IBM Trust Your Supplier My Suppliers

Key business benefits to organizational buyers and verifiers are listed below:

Buyers:

- Provides immediate access, real time to updated and current supplier data at a fraction of cost
- Greatly simplifies current technology and process, reducing supplier approval cycles
- Minimizes supplier risk and ensures compliance

Verifiers:

- Easy, trusted access to supplier compliance data
- Provides credibility and compliance of network members
- Increased opportunity with visibility to the entire network of buyers and suppliers

How TYS works

- Trust Your Supplier creates a digital passport for supplier identity on the blockchain network that allows suppliers to share information with any permissioned buyer on the network.
- Blockchain ensures a permissioned based data sharing network. This should help reduce the time and cost associated with qualifying, validating and managing new suppliers while creating new business opportunities among suppliers and buyers.
- Third-party validators, such as Dun & Bradstreet, Ecovadis and RapidRatings provide outside verification or audit capabilities directly on the network.

Enterprise Blockchain with IBM:

Why blockchain should be a part of your enterprise applications strategy?

- Business applications and use cases will invariably connect with enterprise applications primarily ERP being a System of Record (SOR) for accounting.
- Integration between ERP and blockchain would improve transparency and control.
- Customers, business partners, suppliers and employees are going to be participants in blockchain. They are often mastered in enterprise applications (ERP, HCM or CRM), and such applications drive process orchestration among those participants.

Blockchain enables greater transparency throughout the entire supply chain to prevent disputes and ensure a faster route to market.

Since every record is time-stamped and appended to the preceding event, it generates the highest level of visibility, efficiency and trust in an enterprise system.

When a blockchain platform is integrated with IoT and Cognitive, it provides the opportunity to make real-time decisions based on event-based transactions.

A blockchain platform that is ready for enterprise engagement will contain the following capabilities:

- Shared Ledger: Distributed ledger, digitally signed with encrypted transactions and replicated across an entire network of peers who consume the platform
- Smart Contract: Business logic that encapsulates terms of agreement between participants
- Privacy: Visibility, confidentiality, authenticity and security of each transaction
- Consensus: Protocol to agree on ledger content, cryptographic hashes and digital signatures to ensure the integrity of transactions

Oracle Blockchain is built on Hyperledger Fabric. IBM has a long association with Hyperledger as a founding member. IBM has delivered 500+ blockchain engagements.

IBM's blockchain capability is ranked number 1 by both Juniper Research and HFS Research.

6

Invoice Matching and Payment Management

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency

Secondary Challenges:

- Citizen engagement & service delivery

According to a recent survey for the AP Association:

- 57% of all invoices were just received loosely on pieces of paper
- 54% of businesses said invoices were being sent to the wrong place
- 36% said they were concerned with late payments due to process delays

SOURCE: AP Association (Accounts Payable Association)

The receipt, sorting and management of supplier invoices often leads to a large volume of paper being handled by accounts payable staff, procurement teams and receiving locations.

This can lead to delays in payment, lost paperwork, and a frustrating experience for internal stakeholders as well as the supplier. Multiple invoice contact points for suppliers and a manual workflow for each invoice incurs a significant cost in the processing of each invoice. Additional costs can take the form of lost discounts due to related delays in invoice processing.

IBM and Oracle Cognitive Enterprise tools assist State and Local Government Organizations with Invoice Matching and Payment Management. These tools include:

- ***Oracle Integrated Invoice Imaging Center***
- ***IBM Blue Prism® Robotic Process Automation***
- ***IBM Watson Agent Assist***
- ***Oracle Intelligent Payments***

Oracle Integrated Invoice Imaging Center

The ***Integrated Invoice Imaging Center*** from Oracle provides 2 primary options to enable the automated receipt, match and workflow of invoices:

- Suppliers email their invoices to a common address from where it will be imported directly into the ERP.
- Where suppliers still send paper copies, scan the invoice locally to create an electronic record and have the invoice's electronic record automatically imported into the ERP.

Whether scanned or received via email, Oracle's Intelligent Character Recognition will read the invoice, create an invoice record, attempt to match to a Purchase Order (where appropriate) and where there are exceptions send these via electronic workflow to the relevant internal teams for resolution.

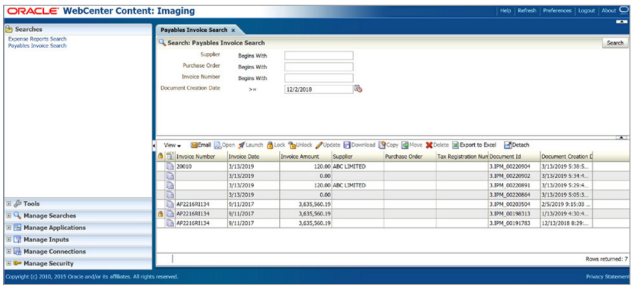


Figure 14: Oracle WebCenter Content Imaging

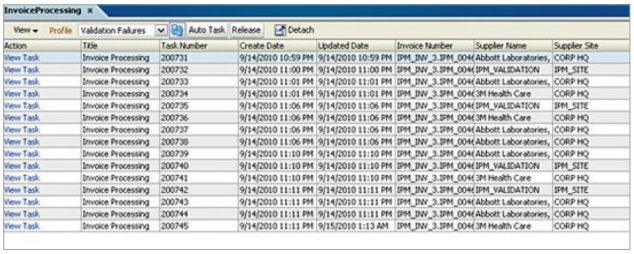


Figure 15: Invoice Processing Validation Failures

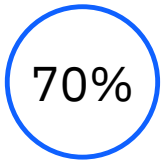
IBM Blue Prism®
Robotic Process Automation

The ***IBM Blue Prism Automated Matching*** solution provides the opportunity to significantly reduce manual intervention from the AP team in managing:

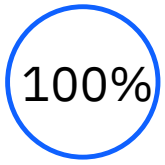
- Either those invoices where OCR has not been able to achieve a match; or
- Enable automated matching for those suppliers who are used on a one-time basis or persist in sending paper invoices

Using IBM Blue Prism's Automated Robotic Process is typically able to book more invoices per month, with improved accuracy and significantly reduce the need for manual intervention.

IBM implemented Blue Prism to automate the booking of receipted Purchase Order invoices from workflow to the ERP and achieved the following results:



Reduction in manual intervention

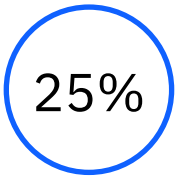


Accuracy of output

Increase in productivity

IBM Watson®
Agent Assist in AP

The ***Watson Agent Assist*** in Accounts Payable provides a Guided Call Assist for Accounts Payable and Travel and Expense helpdesk agents via cognitive question and answer support. It has proven to support higher client satisfaction through better first call resolution and reduced call center costs in dealing with supplier and internal queries relating to payment and invoices.



Reduction in service call re-open rates

Increase in user satisfaction

Oracle Intelligent Payments

The ***Oracle Intelligent Payments*** application is part of Oracle's adaptive intelligence suite in which recommendations for discounts are made based upon the most up to date supplier profile data. It enables discounts historically missed under contracts to be recognized generating additional savings.

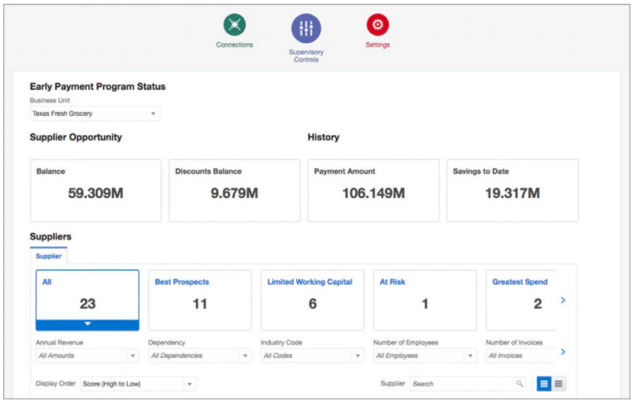


Figure 16: Early Payment Program Status

7

Cash Management and Collections

Primary Challenges:

– Citizen trust & operational transparency

Secondary Challenges:

– Citizen engagement & service delivery

Effective management of cash, receivables and receipts from businesses, consumers and taxpayers is key to liquidity. Oracle ERP Cloud integrated with ***Accounting Reconciliation Cloud Services*** provides configurable rules to automate the reconciliation of collections and report on exceptions.

Oracle recently surveyed over 900 finance technology consumers, respondents who use account reconciliation were rewarded with instant visibility into the progress and status of reconciliations and reducing errors.

Government organizations have multiple collection channels depending on size and complexity of services provided, from EFT and checks to on-line credit card payments and cash receipts. ***The IBM Watson® Cognitive Collection Platform*** solution provides approaches to manage customer collections across collection channels.

Oracle Advanced Collections Cloud Service provides a feature rich collection solution allowing optimal and automated collection strategies to be applied to overdue receivable based on client score and transaction history to minimize days outstanding. In addition, this enables managing and monitoring of customers who have periodic/installment payment commitments and those with overdue and delinquent receivables.

Oracle Account Reconciliation Cloud Service (ARCS)

Oracle Account Reconciliation Cloud Service (ARCS) is a configurable matching and reconciliation tool that provides workflow and seamless integration with Oracle ERP Cloud, Oracle EPM Cloud or other data sources to enable large volumes of data to be brought together.

Reconciliations can be automated using pre-built or configured rules. The application includes dashboards and workflows to support exception resolution and therefore allows the reconciliation of sales to the multiple receipt types (e.g. cash, card, voucher) without the need for significant manual analysis.

Additionally, ARCS provides reassurance via:

- Compliance — Using audit controls to track all activities
- Workflow — Sign off and Approvals
- Role Based Controls — Ensuring access to specific data sets or functions are only accessible to relevant teams

State and Local Government organizations typically have large amounts of small cash transactions to manage from consumers and taxpayers. Equally they need to manage long term cash flow based upon the required investments in large capital construction and infrastructure projects.

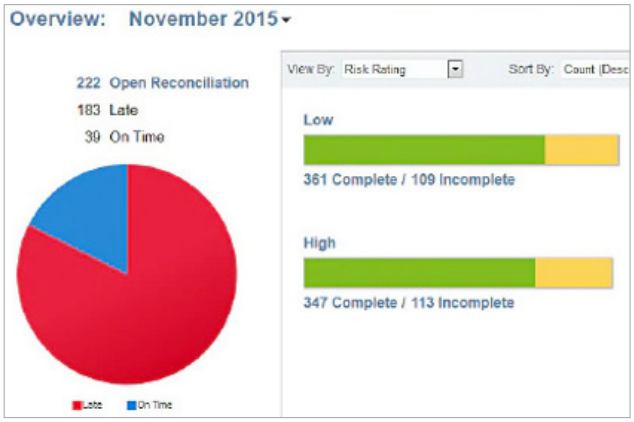


Figure 17: ARCS Collection Overview Dashboard

IBM Watson® Cognitive Collection Platform (CCP)

IBM Watson Cognitive Collection Platform (CCP) is an end to end receivables collection and dispute management application providing the following key functions when integrated with Oracle ERP Cloud:

- Collection Strategy — accelerators for analytical models that predict customer payment behavior and propensity to dispute
- Smarter Workflow — optimal distribution of workflow to maximize cash collections and enhance customer experience
- eDialer functionality — Enables automated customer communication using channels like email and phone

IBM has partnered its blockchain solutions with CCP to create a powerful revenue management solution.

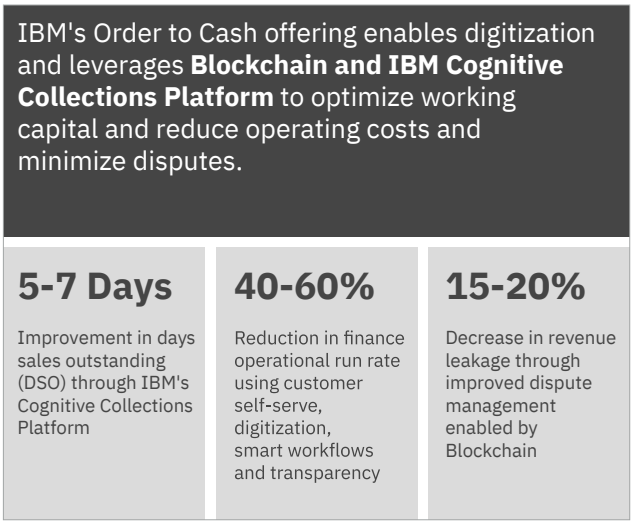


Figure 18: IBM Cognitive Collections Platform and Blockchain Results

Oracle Advanced Collection Cloud

Oracle Advanced Collections Cloud Service establishes the link between back-office transactional data and front-office customer management processes, while improving agent productivity and collection results. Module functionality significantly increases collection success by streamlining processes to apply the right collections strategy to the right customer and to help collect more accounts receivables faster and with less effort.

Collection agents and their managers can use ***Oracle Advanced Collections Cloud*** to:

- Identify and resolve customer delinquencies
  - Track each delinquency as it moves through the collections lifecycle
  - Support standard methods of payments that will quickly resolve the delinquent situation
- Track customer's payment history
  - Calculate collections scores for customers
  - Review a customer's aging data
  - View key customer collections metrics and attach notes
- Plan and execute collections strategies to automate collections management process
  - Identify and automate collection strategy based on customer scores

The above capabilities provide for state and local government organizations to track key collection metrics such as days outstanding to improve collection efficiency and overall profitability.

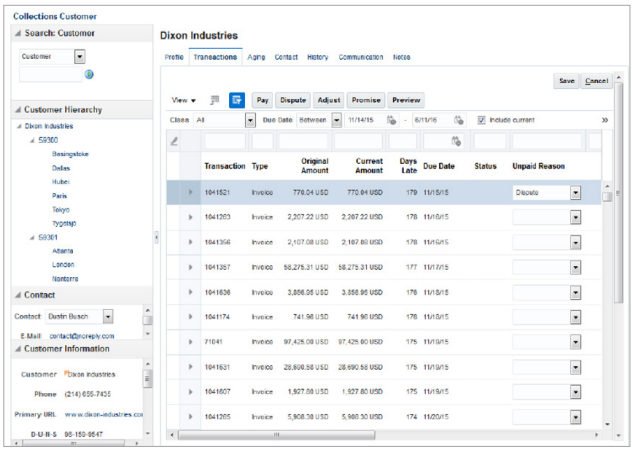


Figure 19: Advanced Collections Cloud Customer Collections

8

Efficient Period End Close, Financial Reporting, Reconciliation and Consolidation

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency

Secondary Challenges:

- Citizen engagement & service delivery

In a recent report based upon research by the McKinsey Global Institute:

40 percent of finance activities (for instance, cash disbursement, revenue management, and general accounting and operations) can be fully automated, and another 17 percent can be mostly automated.

SOURCE: Bots, algorithms, and the future of the finance function, January 2018 Mckinsey.com

Typically, State and Local Governments organizations experience many intergovernmental and interfund transfers resulting from sharing manpower resources and deliverables across organizations/funds including via Shared Service Functions. Labor-intensive month end procedures typically associated with reconciling those entries can be optimized using automated processes.

Period End Close routines often involve multiple participants liaising around the closure of sub-ledgers, General Ledger and consolidation ledgers to complete reconciliations and exceptions.

Current close processes can be inefficient. The majority of public sector customers lack a purpose-built application for financial consolidation and reconciliation, instead using inefficient manual processes, reports and spreadsheets.

IBM Touchless Close for Oracle ERP Cloud

IBM Touchless Close for Oracle ERP Cloud automates a significant amount of the month end process, thereby reducing the overall time required and providing visibility across the life cycle of the close via dashboards to validate the outcome.

The solution can be configured to provide a flexible model based upon:

- Business Rules — which define the range of activities to be completed as part of the month end cycle
- Activity Definition — Specifying the relationship between each activity and how it should be enacted
- Task Structures — Which allow manual intervention points to be included if necessary

Once configured the touchless close provides a simple execution process that can be run and monitored centrally. Tasks, communications and reporting is automated to allow freeing finance teams to focus on value added tasks.

Finance teams often spend significant amounts of time analyzing and reporting data from within the ERP or across multiple systems to either validate or gain greater insight into period end balances and statements.

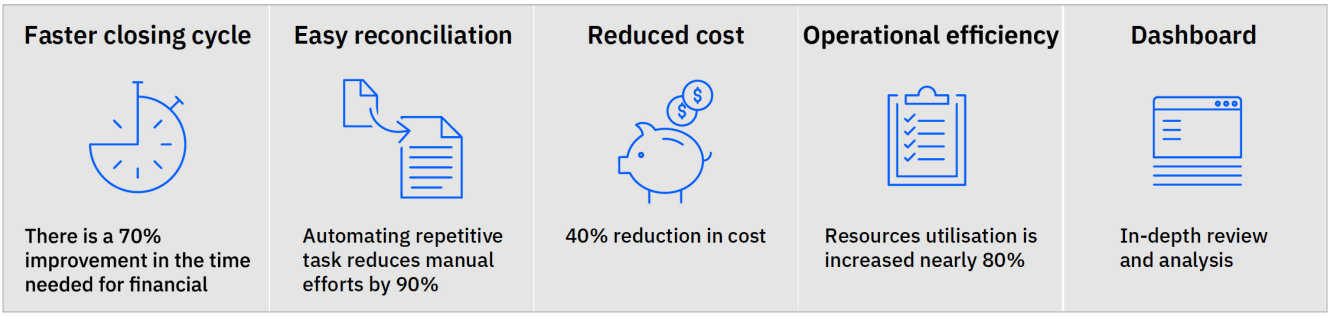


Figure 20: IBM Touchless Close Diagram

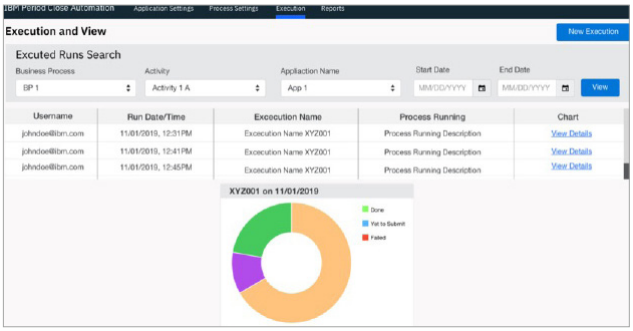
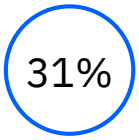


Figure 21: IBM Touchless Close Diagram

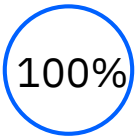
IBM Blue Prism® Intercompany Reconciliation

The ***Blue Prism Intercompany Reconciliation*** enables efficient processes which require critical control procedures to be automated.

Based upon our case studies we have estimated



Productivity gain based upon automation of intercompany



Accuracy in the results recorded

Reduction in the number of journals being raised to support intercompany

The solution has been scaled to work across large organizations such as State and Local Governments.

The solution enables efficiencies to be recognized through:

- Analyzing historic requests and trends in intergovernmental requests and transactions
- Establishing how these can be consolidated
- Enabling common repositories and data sharing mechanisms for receiving and saving intergovernmental requests and their results
- Automating the processing of the intergovernmental transactions intergovernmental requests and their result
- Automating the processing of the intergovernmental transactions

Oracle Accounting Hub Cloud

Oracle Accounting Hub Cloud provides a complete set of accounting tools and access to financial data, including:

- Oracle Cloud Subledger Accounting Rules Engine that provides flexible transformation of transaction and reference information from diverse, non-Oracle, source applications into accurate, detailed, auditable accounting. This same Subledger Accounting is embedded in the Oracle ERP Cloud delivered subledgers such as Payables, Receivables, Assets, and Inventory.
- Ability to drill down from journal entries to seeded or custom transactions
- Oracle ERP Cloud General Ledger Features are available in Accounting Hub is supported by Oracle Financial Reporting Cloud

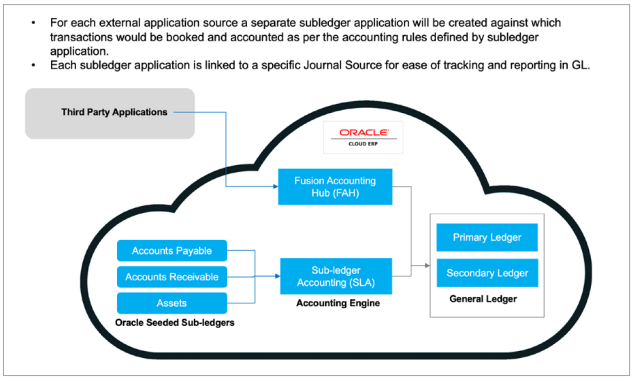


Figure 22: How Accounting Hub Cloud Works

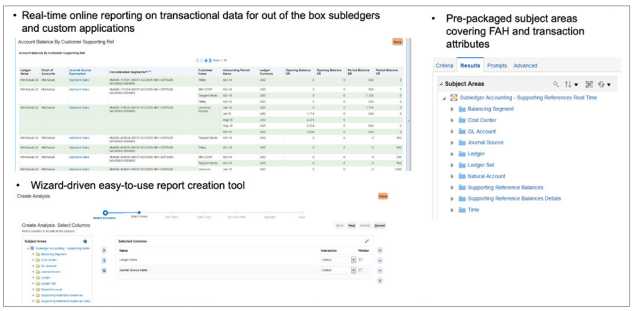


Figure 23: Accounting Hub Cloud uses standard Oracle ERP Cloud Reporting Tools

Oracle Cloud Financial Consolidation and Close

Oracles Financial Consolidation and Close (FCCS) provides a flexible consolidation service that allows you to bring together data from your Oracle ERP Cloud alongside other data sources to quickly create consolidated financial reporting across all entities.

The solution provides the following key tools that enable greater efficiencies in managing period end:

- Compliance Framework — enables auditing, segregation of duties and configurable calculations
- Flexible Models — Accommodate complex legal and internal management reporting rollup structures with unique calculations
- Key Performance Indicators — Track and report on key metrics of the consolidation process and business performance
- Global Coverage — Provides GAAP support to enable intergovernmental eliminations and adjustments

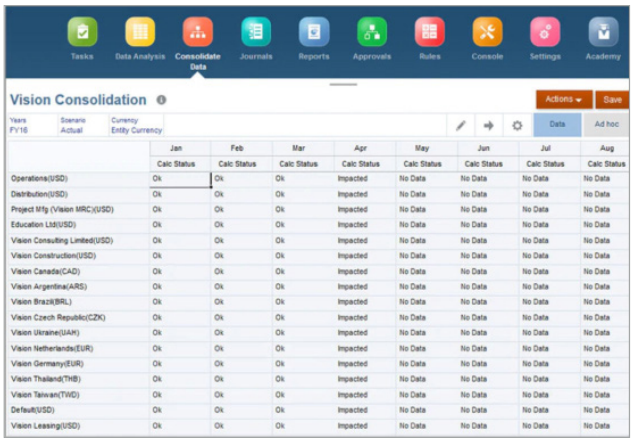


Figure 24: Oracle FCCS Vision Consolidation

Oracle ERP Cloud Intercompany

Oracle ERP Cloud Intercompany enables you to create, settle and reconcile intercompany transactions. The Intercompany application enables:

- Transactions initiated by an entity to be reviewed and approved by the recipient entity;
- Transactions to be either routed to the General Ledger module in the case of treasury-based settlements; or AR and AP invoices in case of sub-ledger-based receipts and payments

Oracle ERP Cloud General Ledger

With ***Oracle ERP Cloud General Ledger*** functionality, users can:

- Reconcile account balances online as well as via reports
- Use integrated inquiry, reporting and analysis tools
- Drill down from account balances to journals and underlying subledger transactions is possible through a single drill path
- Use standard subledger to ledger reconciliation, intercompany reports to easily resolve reconciliation related challenges

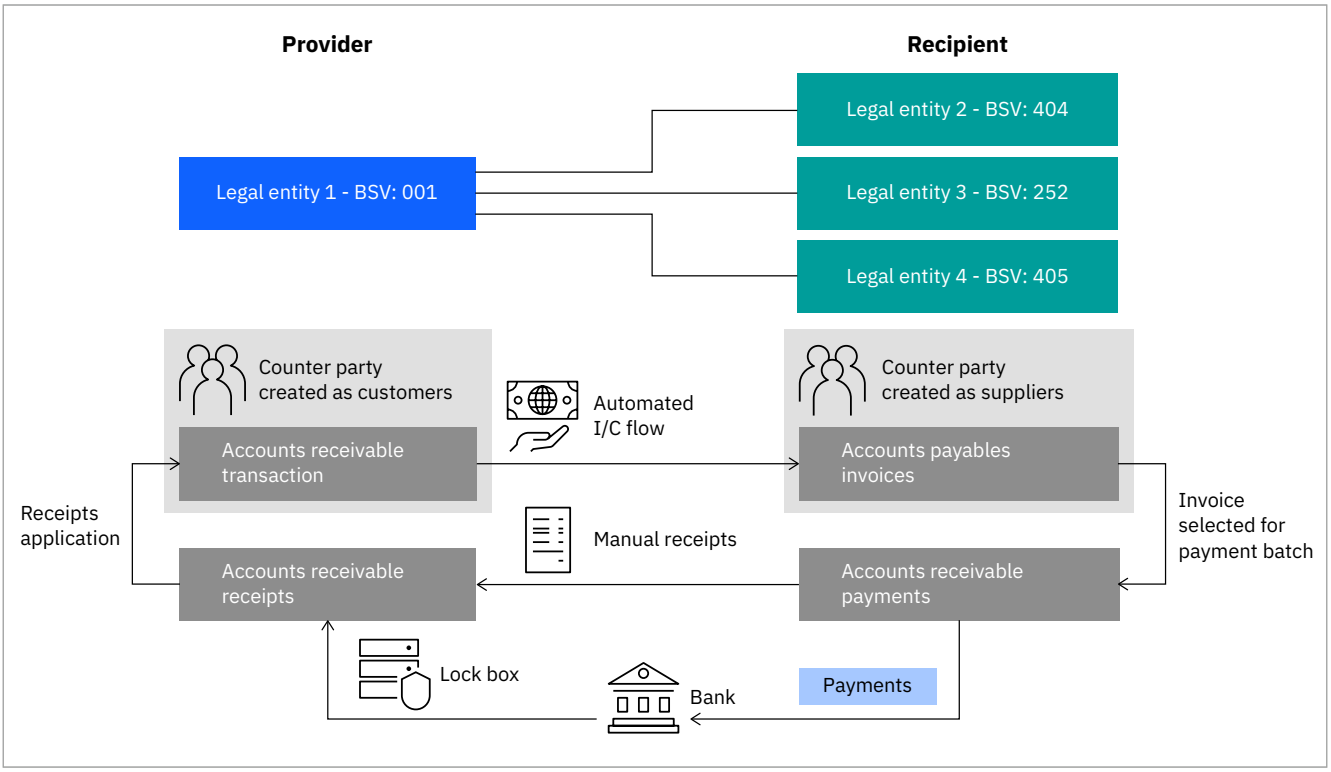


Figure 25: Oracle FCCS Vision Consolidation

9

New Accounting Standards

Primary Challenges:

– Citizen trust & operational transparency

Secondary Challenges:

– Government spending & debt
– Citizen engagement & service delivery

"Many agencies continue to face challenges meeting certain standards for accounting and reporting, and continue to use outdated financial systems that minimally support their financial performance and accountability. Moreover, some agencies still use legacy financial systems that feed their core enterprise resource planning (ERP) system."

SOURCE: IBM Center for the Business of Government, "Government can leverage emerging technologies and processes to modernize financial systems."

IBM believes that the New Accounting Standards impacting State and Local Government Organizations generally results in challenges spanning four major areas: Methodology, Ledger/Subledger Data Integration, Data Computation, Business Benefit.

There is no one-size-fits-all solution to these challenges. So, IBM and Oracle have a host of offerings in this space to meet diverse needs of clients.

IBM Property Management for Oracle

IBM developed the ***Property Management for Oracle Cloud Platform*** solution to complement the existing capabilities of Oracle ERP Cloud and therefore provides a cohesive solution which integrates with the wider Oracle suite of products to allow for master and transactional data to be shared seamlessly.

This allows State and Local Government organizations to manage their property management requirements from space allocation through to billing or payment as well as GASB 87 Lease Administration requirements.

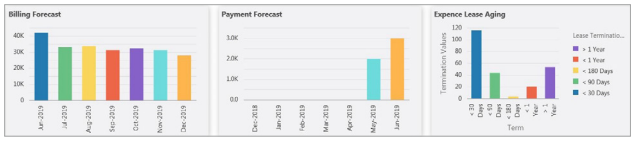


Figure 26: IBM Property Management Dashboards

The solution:

- Maintains a detailed breakdown of the property including a hierarchical representation of the Building or site by its component elements (e.g. zone, floor, office etc.)
- Confirms the space allocation to identify capacity within the property or location and/or assign space by employee
- Automates the schedule of billing to customers for let or sub-let space within the site or payment to suppliers for leases
- Use workflow approvals to validate the lease schedule.

Oracle Financial Consolidation and Close Cloud Service (FCCS)

General capabilities of the FCCS offering are discussed previously within this document.

Specifically related to GASB 87, FCCS will provide:

- Lease right of use calculations
- The ability to define and report on lease interest expense
- A modelling framework to allow lease compliance logic to be defined and maintained
- Dashboards to meet GASB 87 reporting needs

IBM Chart of Accounts Mapper

IBM Chart of Account Mapper provides a framework to enable chart of account transformation both at point of implementation as well as during on-going integration between legacy systems with the Oracle ERP.

The chart of accounts mapper is enabled via a seamless integration framework which sits alongside the Oracle ERP Cloud. This supports data integration with external systems using:

- Bulk data interchange using Universal Content Management.
- Real time in/out transaction data interchange using Application Webservice.
- Data extraction using BI Report.

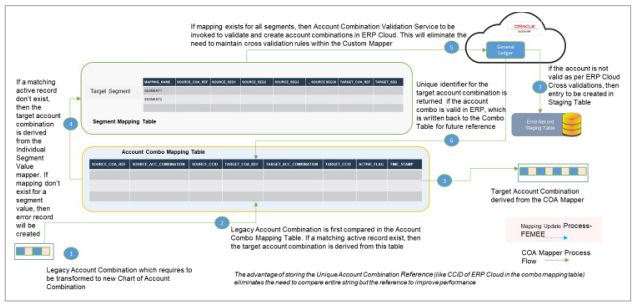


Figure 27: Diagram of IBM Chart of Account Mapper

Transformation and Integration Support:

To manage complex transformation and integrations requirements, IBM has built a transformation engine that provides a re-usable solution component supporting both General Ledger and sub-ledgers including those supported via the Oracle Accounting Hub Cloud.

The solution enables seamless validation, integration, error handling, transaction tracking and reporting capabilities. The solution uses Autonomous Transaction Processing (ATP) and IBM's COA mapper framework that enables Chart of Account transformation at run time.

Implementation and Migration Support:

At the point of implementation and migration there can often be a lengthy multi-phased migration for systems such as tax collections, billing, claim reimbursement, inventory and asset management with peripheral applications onboarded to the new chart of accounts incrementally. This results in a mapping requirement spanning multiple iterations and not just a one-time mapping requirement to convert transactions and balances from the old legacy account combinations to the new global chart of accounts.

10

Budget and Planning

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency
- Citizen engagement & service delivery

Secondary Challenges:

- Economic & job growth
- Climate change & environment protection
- Education
- Healthcare and public health
- Poverty and homelessness
- Public safety and terrorism

Governments today are faced with a rapidly changing environment. Demand is volatile, costs and revenues fluctuate and the regulatory landscape is constantly changing.

A key requirement is to understand this volatility and model these financial and operational changes quickly based on fast changing assumptions.

"As the coronavirus pandemic wreaks havoc on the U.S. economy, state and local governments will not be immune from the pain. In the near term, governments face liquidity challenges, as many tax deadlines have been postponed. In the longer term, governments will experience large revenue declines that may lead to significant budget cuts."

SOURCE: Alison Felix, Senior Policy Advisor for Federal Reserve Bank of Kansas City, "COVID-19 Challenges State and Local Government Finances", Main Street Views: Policy Insights from the Kansas City Fed.

Based upon the impact of the global pandemic, many State and Local Government Organizations are experiencing an unprecedented level of budgetary pressure.

Budgeting Cloud Service (PBCS)

PBCS offers the industry-leading Hyperion Planning base, extensive workflow and integration options, and a simplistic user experience tailored for mobile and tablet use.

This service facilitates both enterprise level and departmental level planning processes for State and Local Government Organizations by providing both Excel-based and web-based, Excel-like modeling, planning and approval capabilities within one collaborative scalable solution.

The ***Oracle Planning and Budgeting Cloud*** drives accurate, connected plans across departments to be prepared for what's next. Navigate uncertainty with scenario modeling. Leverage built-in best practices and predictive intelligence across public entities. Functionalities include:

- Scenario analysis
- Operating budgets
- Multi-year budgeting and reporting
- Workforce planning
- Workflows and approvals
- Performance management with KPI reports and dashboards
- Reporting and auditing

Planning Modules comprise complete planning and budgeting solutions for Financials, Workforce, Capital, and Projects. These business processes include built-in best practice predefined content including forms, calculations, dashboards, drivers, and KPIs. Forms are designed to integrate with the dashboards and reports that dynamically reflect your data, plans, and forecasts.

The Projects solution bridges the gap between project planning systems and the financial planning process. It helps you assess the impact organizational projects and initiatives have on overall resources to ensure they align with short and long term financial targets.

The Strategic Modeling solution combines a set of rich financial forecasting and modeling features with built in on-the-fly scenario analysis and modeling capabilities for long-term strategic plans.

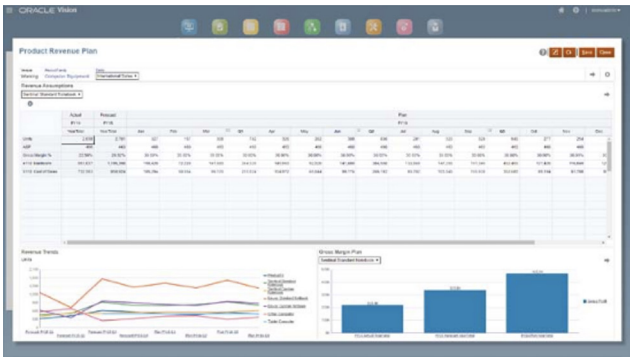


Figure 28: Oracle PBCS Spreadsheet User Interface and Dashboards

SOURCE: Oracle Planning and Budgeting Cloud Service — Oracle Data Sheet

Oracle ERP Cloud Budget Control and Encumbrance Accounting:

This solution incorporates advanced budget preparation, proactive control and monitoring of budget consumption, and robust inquiry and reporting.

It enables government organizations to define and manage budgets and spending with better visibility into commitments, obligations, and expenditures and comply with legal reporting requirements.

Oracle ERP Cloud Budgetary Control and Encumbrance Accounting provides the following functionality:

- Integrates planning and budgeting
- Integrates with Oracle Project Portfolio Management Cloud to provide added benefits to help control costs by project or resource
- Prevents overspending with real-time checks and reservations against budgets, projects, or grants when processing requisitions, purchase orders, supplier invoices, or journal entries
- Provides functionality to review the transaction impact on a budget even before the transaction is approved
- Allows overrides of budget limits by authorized users where appropriate
- Automatically creates and liquidates encumbrance journals throughout the procure-to-pay lifecycle to ensure compliance with legal accounting requirements. This Streamlines the financial close process with encumbrance carry forward.
- Performs real-time maintenance and monitoring of funds available
- Delivers immediate visibility to operational and financial information with robust reporting and analysis

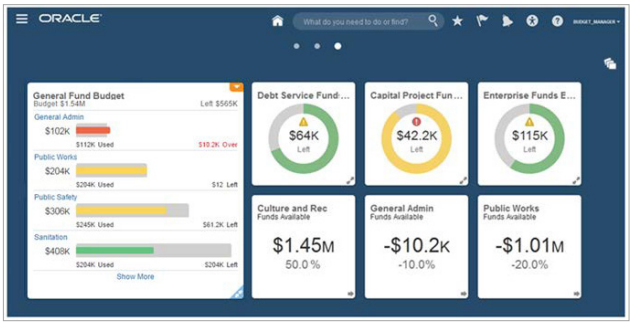


Figure 29: Oracle ERP Cloud Budget Control Dashboard

SOURCE: Budget Control and Encumbrance Accounting — Oracle Data Sheet

IBM Planning Analytics

Powered by IBM's TM1 business analytics toolkit, it automates your planning, budgeting, forecasting and analysis processes. ***IBM Planning Analytics*** offers the full functionality of spreadsheets while eliminating manual tasks to drive efficiency.

The solution can access data from multiple sources, including your Oracle ERP Cloud along with other ERP and 3rd party systems to automate planning, budgeting and forecasting activities. The analytics tools it provides are critical to State and Local Government Organizations where changing stakeholder demands, new legislation and complex long-term capital programs demand sophisticated agile planning tools.

Using ***IBM Planning Analytics*** you can:

- Use configurable models to perform in-depth, what-if scenario analysis to test assumptions and compare alternatives.
- Build multidimensional models to analyze performance by service, region, offering and more.
- Report on and communicate insights with compelling, self-service visualizations.
- Use online collaboration with multiple internal parties to refine and maintain plans.
- Integrate multiple plans across Finance, Supply Chain, Operations, Capital and more.

Figure 30: Oracle ERP Cloud Budget Control Dashboard

11

Organizational Transformation

Primary Challenges:

- Government spending & debt
- Citizen trust & operational transparency
- Citizen engagement & service delivery

Secondary Challenges:

- Cybersecurity
- Aging Infrastructure

"Digital transformation (the "why") is creating the case for change, legislative and executive action (the "what") is creating the mandate, and an approach that pairs expertise and innovative thinking from within (the "how") is creating the path forward. We believe these steps will generate unbeatable momentum — towards more efficient management, creating new and enhanced citizen experiences and illuminating unprecedented value propositions in the way government delivers to the public."

SOURCE: IBM Center for The Business of Government, "A Pivotal Moment for Digital Transformation."

IBM Blueworks Live is an innovative cloud-based business process management tool that assess change impacts whilst you discover, design, automate and manage business process transformation for your organization.

As the world changes, change management approaches must also change. Traditional approaches tended to be project-centric, rather than employee-centric, and focused on executing strategies developed at project inception rather than "sensing and responding" to changes in employee sentiment.

With these shifts in mind, IBM has re-invented our approach to change — we call this the ***IBM Digital Change Approach***. The global market intelligence firm, International Data Corporation (IDC) ranked IBM the 2017 Leader in worldwide organizational consulting services for our Digital Change approach.

The ***IBM Cloud Impact Assessment*** and ***IBM RapidMove for Oracle Cloud*** can assist with your Cognitive Enterprise Transformation.

IBM Blueworks Live

IBM has built a library of public sector specific business process flows within the IBM Business Process Management (BPM) Tool — Blueworks Live that is use as the modelling tool for defining the Cognitive Enterprise Transformation.

As the tool is used to capture change impacts, IBM will have the ability to store all process related information in one place. This enables reporting from the tool, such as change impacts by role or process step for example. Reporting from this tool will provide key inputs to the change impact analysis.

IBM performs a comparison of the business processes as currently performed by an organization to the leading set of public sector specific business processes built in Blueworks Live. This analysis will uncover gaps between the business processes and options for the organization such as adaptation, adoption or accommodation.

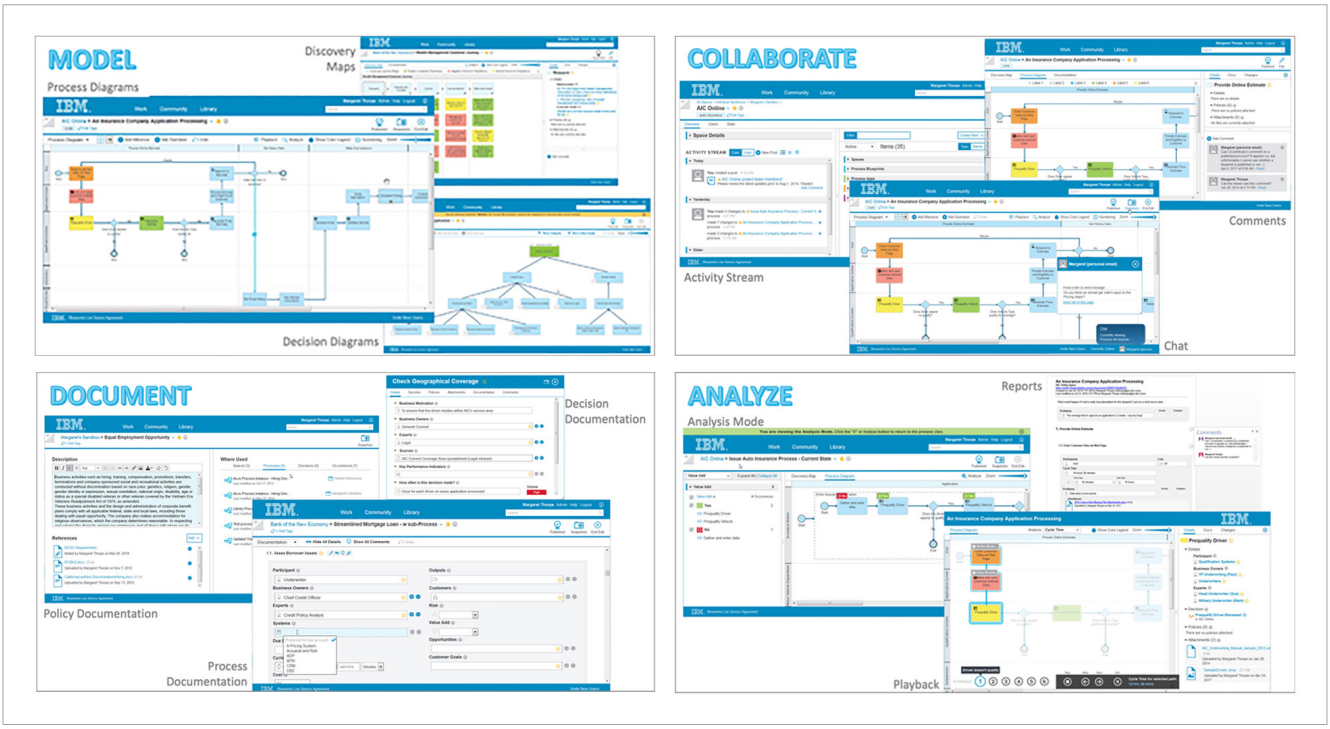


Figure 31: BlueWorks Live Capabilities

IBM Digital Change

During the past year IBM has completely reimagined the approach to change management. Our new IBM Digital Change Approach centers on the requirements and preferences of today's organizations and their most precious asset and driving force for change: your people.

We amplify the employee voice through digital channels — personalizing change by placing employees at the center of the change. This collaboration will enable the team to move users through the transformation process with a deep understanding of business process needs.

IBM Digital Change is a modern, highly interactive approach to change that is unique due to its focus on the employee experience, which is critical to enable the transformation to the Cognitive Enterprise.

We prioritize the employee experience by engaging your employees "early and often" throughout the project lifecycle to shape the change. We host collaborative style workshops, create role-based personas and base all change, training, and communications activities on the persona's needs. The result is active change leadership as well as heightened levels of commitment, knowledge about the change, and skills to perform in the new work environment. We also make certain that our documents are "living" and iteratively updated. Lastly, we actively monitor employee user engagement through dynamic surveying to ensure continued program success.

A key element of the IBM's Digital Change approach is the Change Capability Assessment, which provides a baseline measurement of where the target entity falls along the leading practice spectrum. Online survey scores combined with qualitative discussion data generated during interviews will help identify strengths and areas for improvement. These results will illuminate change capability "gaps" to bridge to ensure success in your transformation journey.

Key outcomes from the Change Capability Assessment include:

- Indicators of risk to successfully implementing the change associated with PROJECT NAME
- Insights on change capability gaps to address as part of the OCM Plan to help build the required level of internal change capability

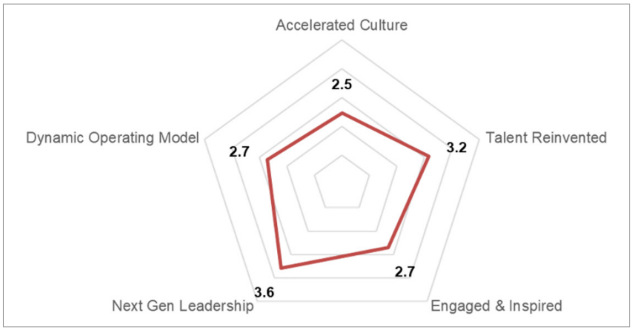
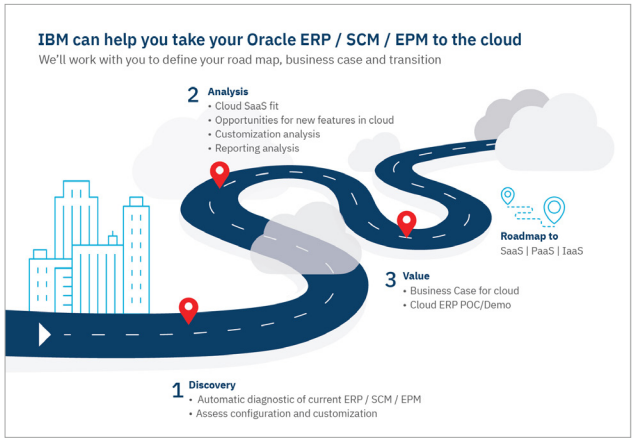


Figure 32: IBM Change Capability Assessment

IBM Cloud Impact Assessment (CIA)

IBM's Proprietary ***Cloud Impact Assessment*** for Oracle articulates your personalized roadmap and business case for cloud transformation.



The CIA includes

- Current state functional and technical assessment
- Target state business process and technical opportunities in transitioning to Oracle Cloud
- Target state transition risk assessment
- Recommended roadmap
- Costed business case and ROI statement
- For current Oracle eBS Users: Migration of your eBS instance configuration, master data and transactions into a live demo Oracle ERP Cloud environment

Figure 33: CIA Roadmap

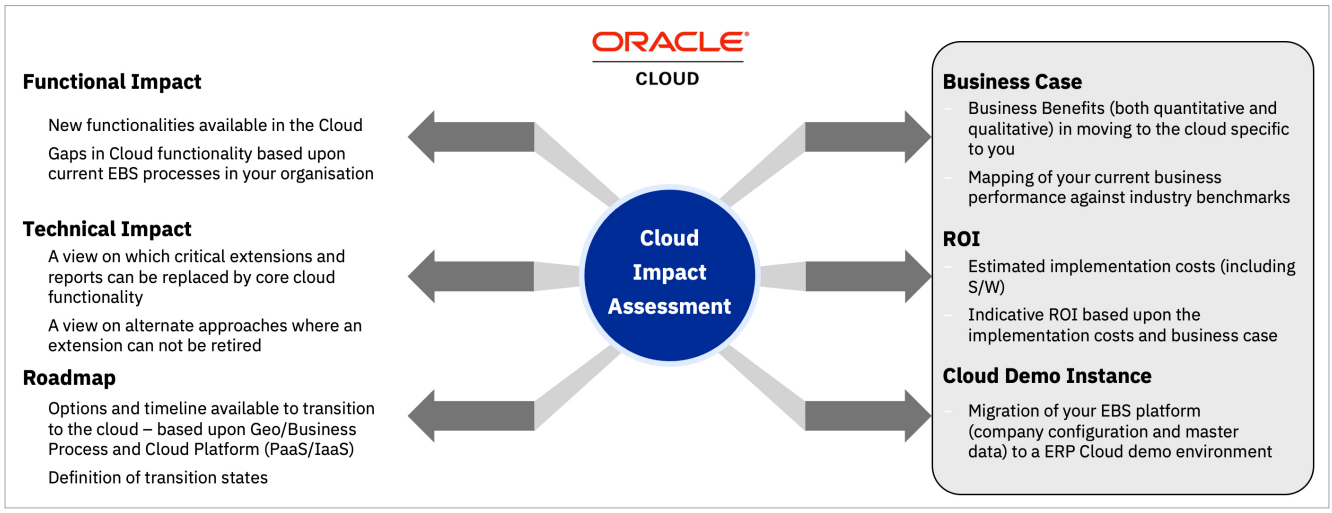


Figure 34: Cloud Impact Assessment Diagram

IBM RapidMove for Oracle Cloud

IBM RapidMove for Oracle Cloud provides an extensive range of proven IBM assets allowing us to accelerate the implementation and deployment phases of the transformation to Oracle Cloud.

Key benefits provided by this solution include:

- Standardized process templates and configuration allowing the business to exploit intelligent workflows (e.g. RPA, IoT, Cognitive)
- Reduces or removes manual steps and automates the creation of instances
- Embeds digital change and leading practice training tools to enable the business and board to recognize the benefits

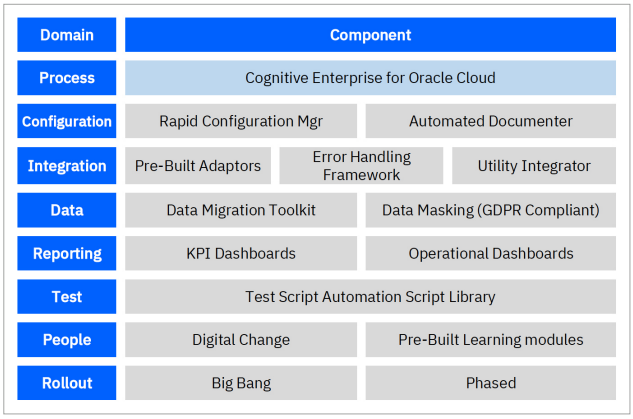


Figure 35: IBM RapidMove Impact

12

What's Next

Among many examples in recent case studies, IBM has helped clients recognize the following:

- Procure to Pay: 5-10% reduction in Non-Compliant spend enabling better realization of savings from contracted spend
- Budgeting, Forecasting and Controls: Deployed solutions which enable 10M+ calculations within 10 seconds helping predict market demands and optimize the business response
- Record to Report: 50% reduction in close cycle time and forecast and budget cycle time

Convergence of technological innovation, social and regulatory transformations have enabled dynamic transformation among State and Local Government Organizations. To keep up with the disruption, the emergence of the Cognitive Enterprise is inevitable.

The ability to manage the needs of your customers, regulators, suppliers, work force and stakeholders to drive efficiency and optimize the finance and procurement functions are paramount to the success of State and Local Government Organizations.

The opportunity to harness Oracle's vertically integrated ERP Cloud with IBM's Cognitive capabilities has the potential to accelerate organizational transformation into intelligent automation via the implementation of the Cognitive Enterprise.

To learn more about or request for a demo of IBM's Oracle ERP Cloud capabilities with Cognitive for State and Local Government Organizations, please reach out to your IBM client executive.

13

Why IBM

IBM is one of Oracle's largest and most experienced systems integration partners jointly helping customers for over 35 years:

- Oracle Partner
- 10,000+ dedicated Oracle consultants
- 2,000+ Oracle Cloud certifications
- 375+ Oracle Cloud go-lives
- 10+ Oracle-specific delivery centers
- Oracle Cloud Garage

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14

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