



Operational Risk Assessment Executive Summary

January 19, 2012

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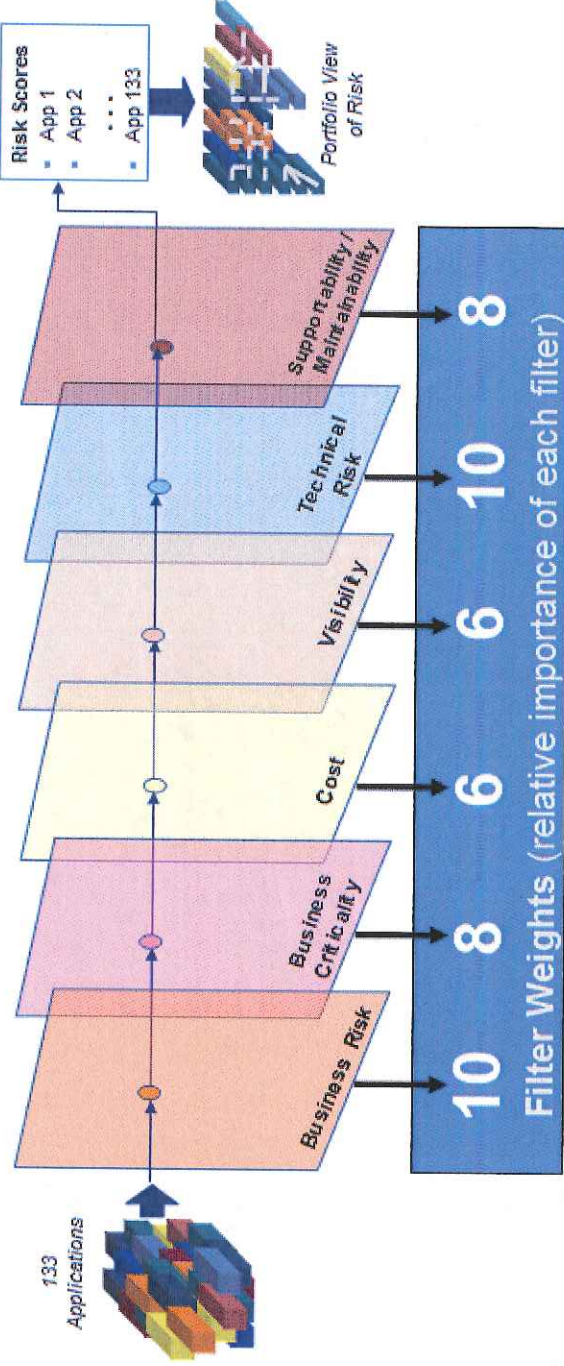
Colorado OIT has asked IBM to perform a risk assessment of 133 critical and essential applications

Project Charter:

- Perform a risk assessment for 133 State of Colorado applications that were determined to be critical or essential in order to determine the degree of risk associated with the portfolio

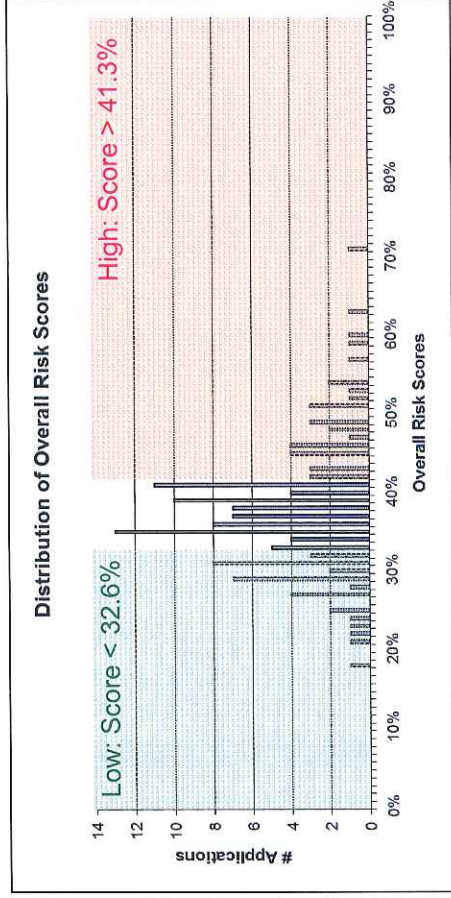
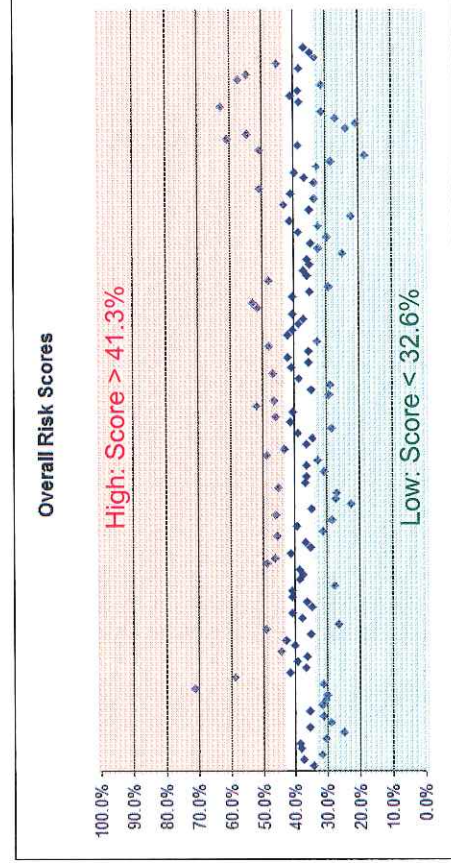
Deliverables:

- Portfolio view of qualified risk findings
- Prioritized applications
- Application Inventory with 169 total attributes for each application
- High Level Cost Analysis



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Overall, the applications had a median and average score of less than 40% of the Total Possible Risk Score* but many risks were identified



Key Observations:

- **Unsupported technologies** – 28 applications (21%) have unsupported technologies including 2 of the top 10
- **Maintainability** – many large complex systems with issues related to skills availability and aging technologies
- **Visibility** – many highly visible applications are not stable, have unsatisfied users and do not have disaster recover sites
- **Outsourcing / virtualization** – 68 applications (51%) are supported in house and 23 (17%) have virtual hardware
- **Defects / stability** – 12 applications (9%) had 6 or more sev-1 defects in production in the last year
- **User satisfaction** – 21 applications (16%) have unsatisfied users
- **Nonfunctional Requirements (NFRs)** – many applications are not scalable, flexible or reusable and have availability issues as well as insufficient SLAs/SLOs



*Total Possible Risk Score was calculated using the largest score allowable with the 99 in-scope attributes and their weights for each filter

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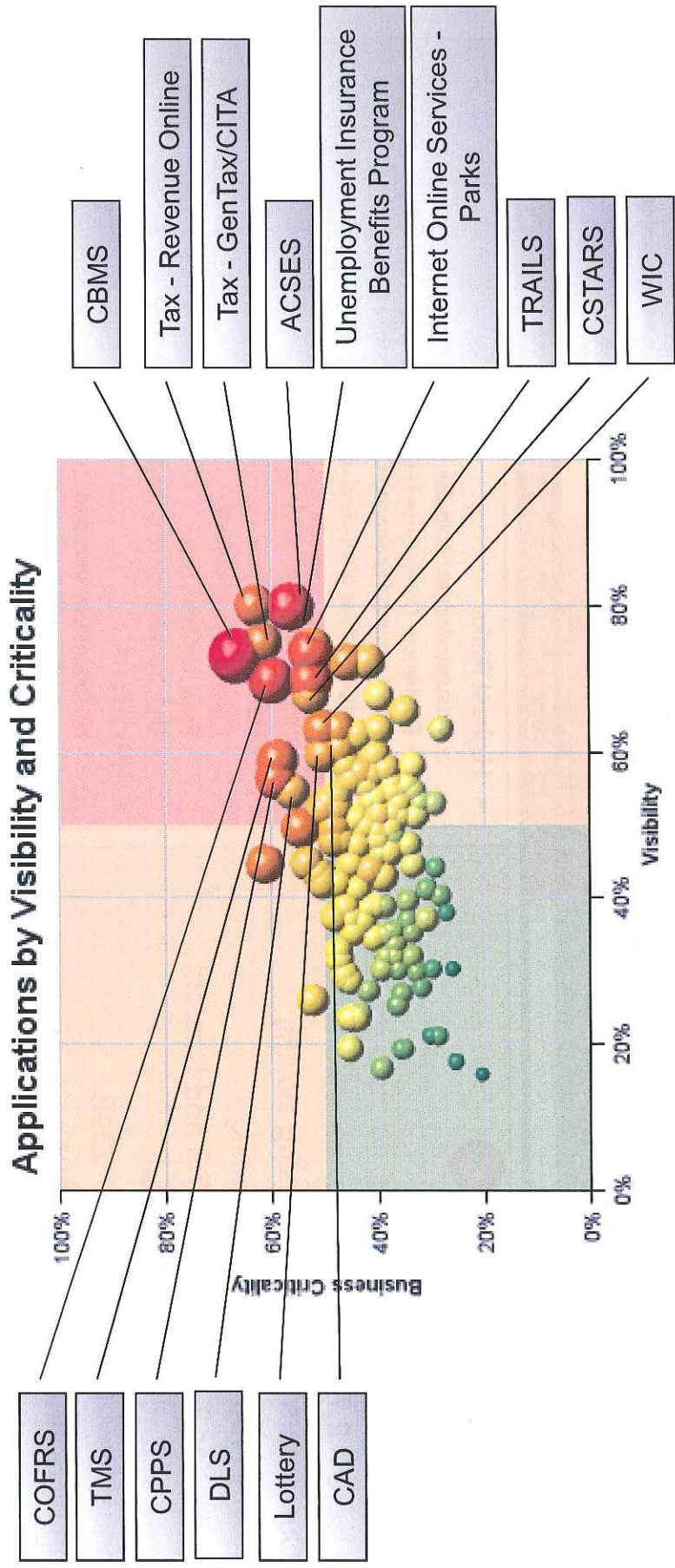
The top 33 (25%) Overall Risk Scores were categorized as 'High Risk'

Rank	Agency	Application Name	Overall Risk Score	Business Risk	Business Criticality	Cost	Visibility	Technical Risk	Supportability / Maintainability
1	HCPF, DHS	Colorado Benefits Management System (CBMS)	71.2%	58.7%	66.6%	100.0%	73.1%	66.6%	74.3%
2	DHS	Automated Child Support Enforcement System (ACSES)	62.8%	58.0%	58.4%	78.3%	79.8%	56.4%	57.7%
3	DPA	COFRS	60.5%	69.5%	59.9%	33.3%	69.7%	59.9%	63.8%
4	CDLE	Unemployment Insurance Benefits Program	58.8%	60.3%	52.5%	56.7%	73.6%	52.5%	61.4%
5	DHS	Child Welfare and Youth Corrections Case Management System (TRAILS)	58.8%	49.3%	52.6%	71.7%	69.7%	52.6%	56.9%
6	DPA	CPPS	54.4%	47.0%	59.1%	38.3%	58.3%	59.1%	63.7%
7	DHS	TMS (Treatment Management System)	54.3%	56.9%	58.8%	25.0%	58.8%	58.8%	59.2%
8	DOR	Tax - Revenue Online	53.0%	44.6%	63.0%	0.0%	80.0%	63.0%	60.6%
9	DOC	DCIS - Departmental Information System	51.7%	54.0%	54.5%	36.7%	49.6%	54.5%	55.6%
10	DOR	Tax - GenTax/CITA	51.3%	43.0%	61.6%	0.0%	75.0%	61.6%	59.1%
11	DORA	DLS	50.6%	57.8%	50.3%	20.0%	63.0%	50.3%	56.1%
12	DORA	LibertyNet	49.0%	45.2%	47.5%	41.7%	63.0%	47.5%	52.2%
13	CDPHE	Women, Infants, Children (WIC)	48.8%	49.0%	45.8%	31.7%	72.3%	45.8%	50.7%
14	CDPS	Colorado Crime Information System (CCIS)	48.7%	48.2%	52.1%	0.0%	74.4%	52.1%	48.4%
15	DNR	Internet Online Services - Parks	47.9%	44.7%	50.3%	36.7%	59.7%	50.3%	59.1%
16	DOR	Lottery	46.8%	52.2%	52.6%	0.0%	67.7%	52.6%	53.2%
17	DOR	Motor Vehicle Division (MVD) - CSTARS	46.5%	45.5%	56.2%	0.0%	54.6%	56.2%	58.4%
18	DOR	Driver's License System (DLS)	46.5%	48.3%	46.3%	31.7%	49.6%	48.3%	48.8%
19	DOC	PCDIS	46.5%	44.3%	47.2%	30.0%	60.5%	47.2%	48.9%
20	CDPS	Computer Aided Dispatch (CAD)	46.1%	53.3%	41.9%	16.7%	72.4%	41.9%	49.0%
21	DNR	Total Licensing System (TLS)	45.8%	52.6%	50.4%	6.7%	52.2%	50.4%	51.4%
22	CDPS	CIAC Web Page and Database	45.4%	52.8%	46.2%	15.0%	47.9%	48.2%	51.0%
23	CDPS	AFIS - Automated Fingerprint Identification System	45.4%	46.2%	43.3%	35.0%	57.1%	43.3%	48.0%
24	DHS	Child Care Automated Tracking System (CHATS)	45.1%	48.2%	53.3%	20.0%	44.7%	53.3%	53.4%
25	DNR	Colorado Outdoor Recreation Information System (CORIS)	44.8%	39.0%	41.6%	73.3%	43.8%	41.6%	41.8%
26	CDOT	SAP Enterprise Resource Planning (ERP)	44.8%	35.3%	47.9%	10.0%	52.2%	47.9%	49.3%
27	DNR	Laserfiche	43.2%	44.5%	47.9%	10.0%	52.2%	47.9%	49.3%
28	DORA	eFilings	43.1%	43.3%	50.5%	13.3%	42.1%	50.5%	49.5%
29	CDPHE	Colorado Electronic Disease Reporting System	42.8%	41.3%	49.4%	13.3%	53.0%	49.4%	44.2%
30	DOR	MVD - EARS	42.3%	44.0%	51.3%	0.0%	43.4%	51.3%	50.6%
31	DOR	DLS - Interfaces	42.1%	47.2%	47.1%	0.0%	47.9%	47.1%	51.4%
32	CDLE	Workers Compensation Special Funds Program	41.8%	44.5%	39.8%	31.7%	51.4%	39.8%	43.3%
33	DNR	State Asset Management System (SAMS)	41.5%	40.8%	43.7%	15.0%	62.3%	43.7%	41.5%
Legend			71.2%	69.5%	66.6%	100.0%	80.0%	66.6%	74.3%
High Score			36.8%	39.1%	40.7%	3.3%	46.3%	40.7%	40.2%
Medium Score			38.0%	39.1%	40.7%	3.3%	46.3%	40.7%	40.2%
Low Score			18.3%	18.7%	20.5%	0.0%	15.8%	20.5%	17.7%
Portfolio Statistics			Max:	69.5%	66.6%	100.0%	80.0%	66.6%	74.3%
			Median:	39.1%	40.7%	3.3%	46.3%	40.7%	40.2%
			Average:	38.0%	41.9%	11.6%	45.5%	41.9%	41.4%
			Min:	18.3%	20.5%	0.0%	15.8%	20.5%	17.7%



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IBM found 15 applications with a high overall risk score that were also highly visible and business critical



Note: The size of the bubble indicates Overall Risk Score

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Top 10 Riskiest Applications – COFRS

Rank	Agency	Application Name	Overall Risk Score	Business Risk	Business Criticality	Cost	Visibility	Technical Risk	Supportability/Maintainability
3	DPA	COFRS	60.5%	69.5%	59.9%	33.3%	69.7%	59.9%	63.8%

Overall Risk Ranking = 3

- Yearly Cost = \$1.85M
- Supported By = In-House
- # Users = 2,700
- # Customers = 10M (decreasing slowly)
- System Type = Customer Facing
- Application Type = Both COTS and Custom
- Types of End Users = Internal
- Annual Revenue Collected = \$34B
- Annual Benefits Paid Out = N/A
- Description:
 - Provides overall accounting and financial management for the State and is the accounting system of final record.

Highest Risks

- Unsupported technologies (Core)
- Regulatory Compliance (FDIC, ACH/NACHA, UN/EDIFACT and NIGP commodity/Service Code. Sarbanes Oxley)
- Large number of inbound and outbound interfaces with significant complexity
- Unintuitive & difficult to use
- Limited flexibility
- High volume of defects
- Slow response times
- High transaction volumes (between 1M and 10M per day)
- Mitigations
 - No information provided.
- In-Flight Projects
 - N/A

