CAST
Software Intelligence for Digital Leaders

SAMPLE REPORT

Roadmap to Cloud Native

Prioritized actions for modernizing custom applications for a PaaS environment

CHALLENGE:

Modernizing existing applications to become cloud native and deployed in a PaaS environment **without** re-developing an entire software system can deliver on the promise of cloud – scalability, resiliency, performance, economics, access to services such as AI/ML, DBaaS, containers, and more.

The process can be slow and risky, depending on accurate understanding of the existing application inner workings, required to determine the following:

- The best modernization approach, such as Refactor, Rearchitect, Rebuild, etc.
- The blockers to PaaS deployment, required code changes and effort
- The specific cloud native services best suited for the applications to utilize once on the cloud
- The additional changes for improving software health, reducing open source risks, making the software greener

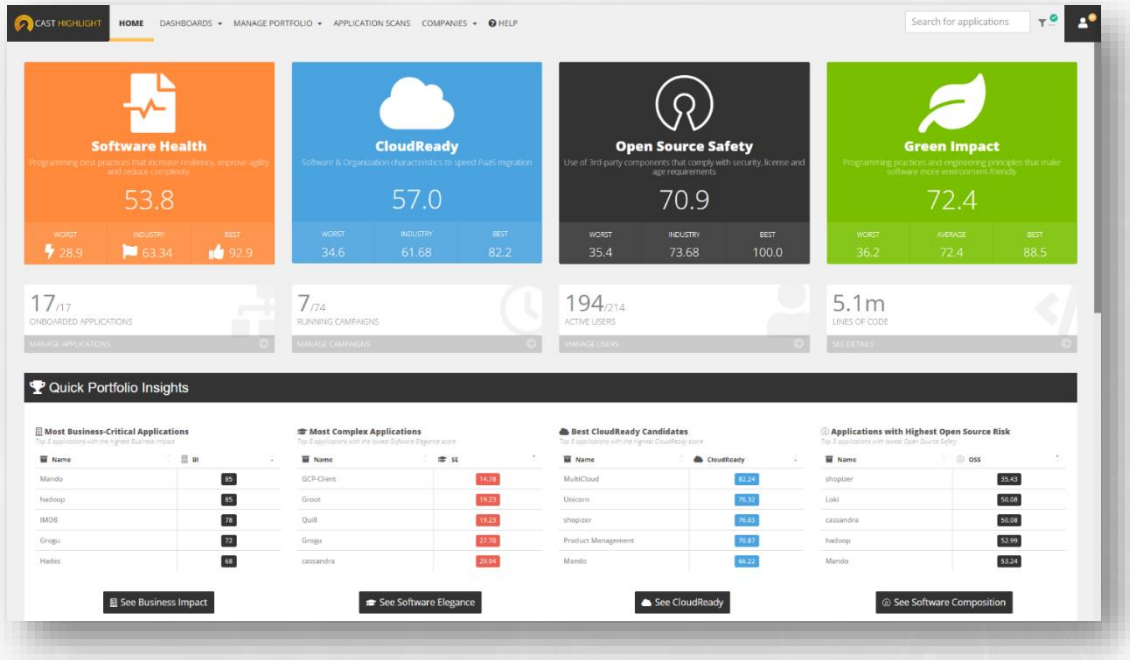
SCOPE:

- This document is a sample of automatically generated intelligence about a portfolio of 17 applications considered for modernization to cloud native:
- Some of the applications are still on-premise and others have already been rehosted on cloud (IaaS)
- Key insights in this report include:
  - Specific recommendations on how to modernize each application to be cloud native
  - Specific recommendations on open source risks, software health, and green impact to be considered as part of the modernization

CAST Highlight was used to produce the intelligence in a few hours by automatically understanding the source code and capturing qualitative information via a built-in survey.

Contact us to learn more

CAST Highlight website

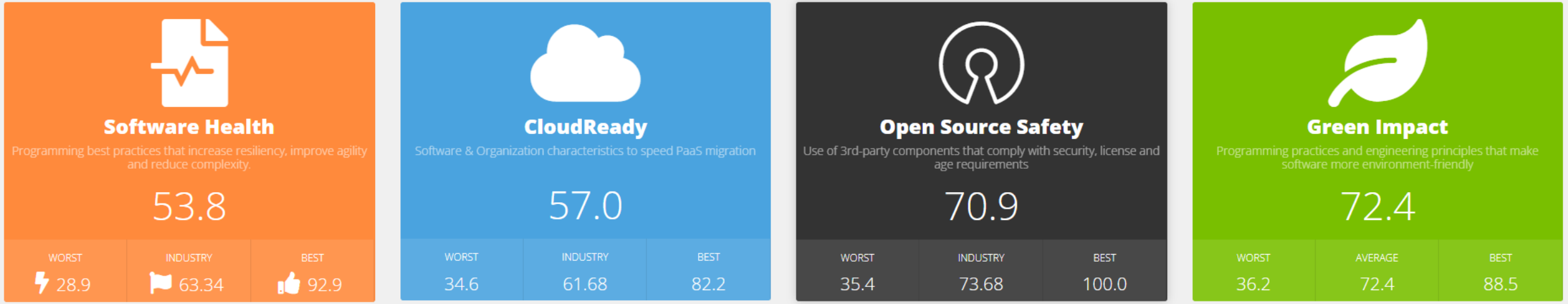


17
applications

10
technologies
(programming languages)

5.1m
lines of code

527
open-source components



A portfolio snapshot provides a summary of the portfolio and top line metrics for all applications. (All metrics are defined in the appendix.)

Application Portfolio Snapshot

Technology	Size (LOC)	Resiliency	Agility	Elegance
Java	2.5M	53.44	58.94	36.88
C#	1.6M	78.91	57.41	61.97
Cobol	712K	45.10	56.00	37.86
VB	202K	54.15	63.27	49.52
C/C++	104K	68.18	66.08	44.90
Javascript	26k	66.66	53.90	73.11
Python	20k	61.26	63.89	56.18
Ksh	11k	67.74	66.71	88.37
JSP	6k	52.93	68.74	98.15
T/SQL	1k	90.00	49.36	77.15

The portfolio snapshot also includes the portfolio demographics broken down by technology and health scores (resiliency, agility, elegance).

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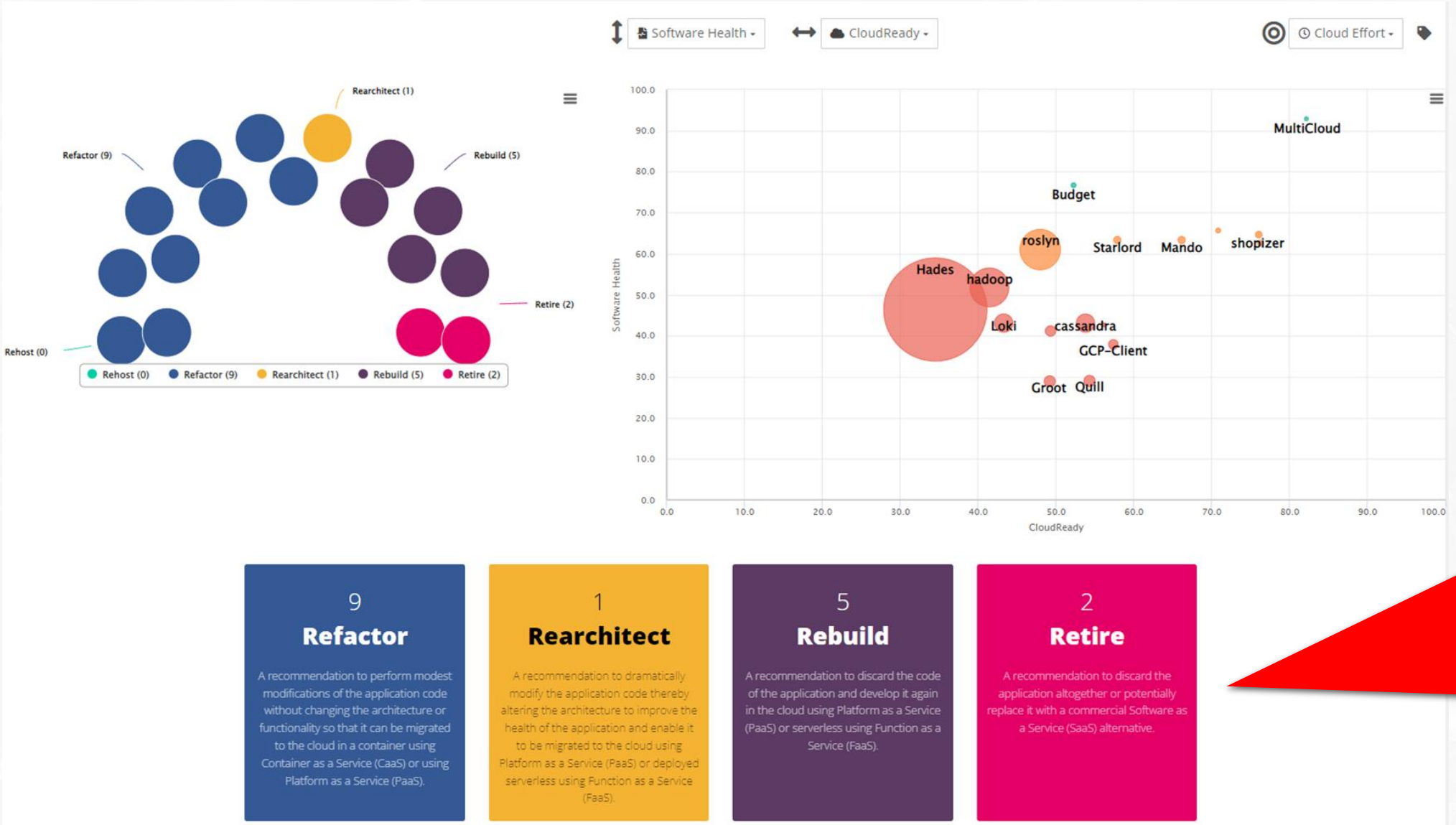
Roadmap to Cloud Native - Sample Report

Cloud Readiness

This section of the report contains key insights generated by CAST Highlight on the readiness of applications for adopting cloud native including:

- Recommended modernization approaches for each application (Refactor, Rearchitect, Rebuild)
- Blockers to PaaS deployment, estimated effort to remove them, and the required code changes
- Recommended cloud native services that applications can adopt when deployed in a PaaS environment
- Summarized action plan for the application portfolio

Portfolio Advisor for Cloud



9 Refactor

A recommendation to perform modest modifications of the application code without changing the architecture or functionality so that it can be migrated to the cloud in a container using Container as a Service (CaaS) or using Platform as a Service (PaaS).

1 Rearchitect

A recommendation to dramatically modify the application code thereby altering the architecture to improve the health of the application and enable it to be migrated to the cloud using Platform as a Service (PaaS) or deployed serverless using Function as a Service (FaaS).

5 Rebuild

A recommendation to discard the code of the application and develop it again in the cloud using Platform as a Service (PaaS) or serverless using Function as a Service (FaaS).

2 Retire

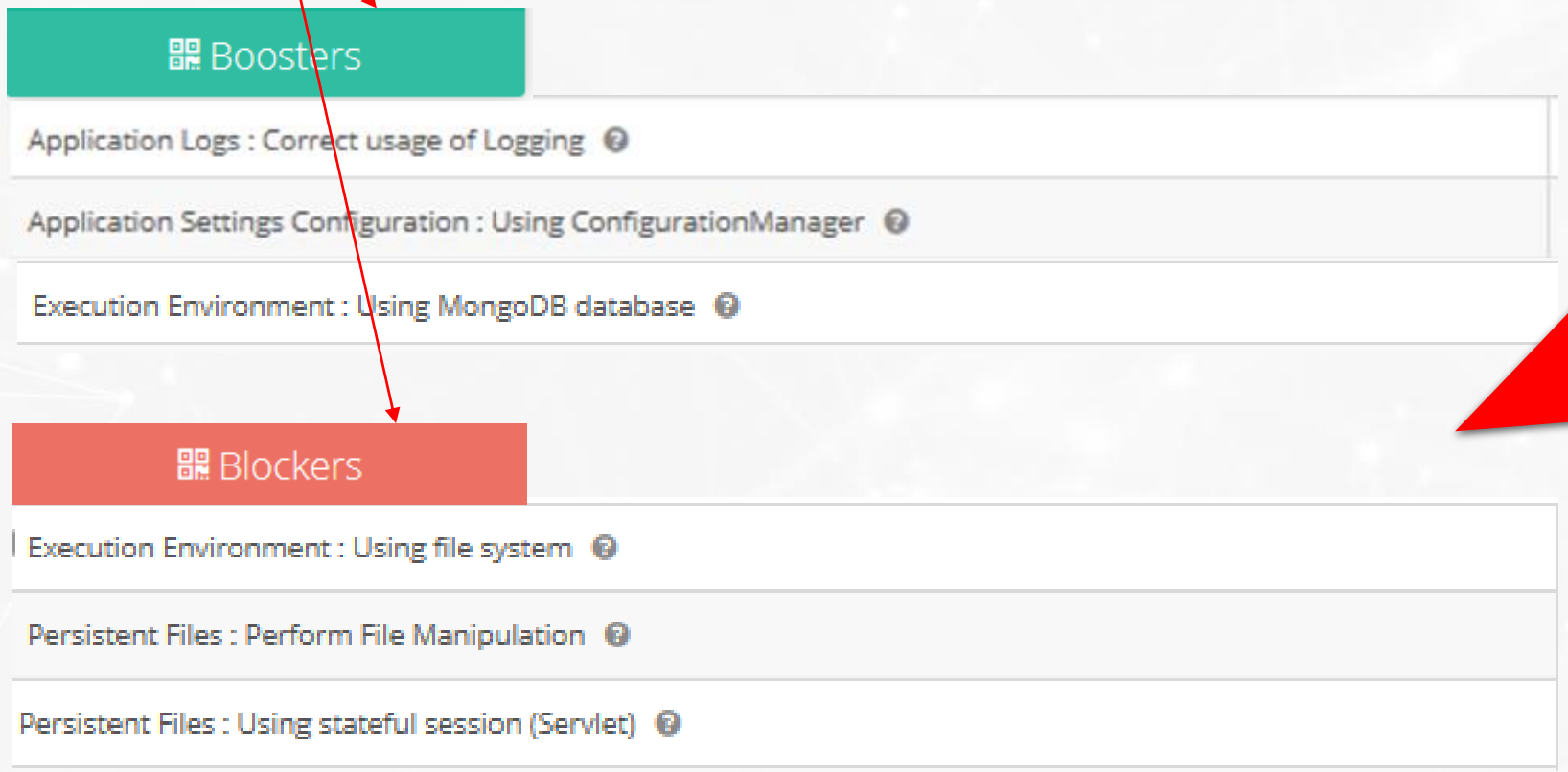
A recommendation to discard the application altogether or potentially replace it with a commercial Software as a Service (SaaS) alternative.

The Portfolio Advisor for Cloud automatically segments each application and recommends the ideal modernization approach based on fact-based technical characteristics (via automated source code analysis) and qualitative criteria such as business impact (captured via survey).

Name	Segment	LOC	Files	BI	Total FTE	CloudReady	Roadblocks	Est. Effort	OSS	SR	SA	SE
roslyn	Refactor	1.38m LOC	7.41k	63	65.00 FTE	48.01	13260	374.78 person-day	73.74	76.50	57.36	49.15
cassandra	Retire	405.8k LOC	2.73k	30	5.00 FTE	53.87	1986	58.33 person-day	50.08	45.79	53.52	29.94
hadoop	Rearchitec	1.3m LOC	9.6k	85	30.00 FTE	41.45	9709	338.13 person-day	52.99	60.63	62.77	31.93
GCP-Client	Rebuild	254.57k LOC	1.04k	57	25.00 FTE	57.44	136	6.89 person-day	65.94	46.92	51.98	14.78
Hades	Rebuild	788.06k LOC	2.27k	68	35.00 FTE	34.57	39431	2.81k person-day	71.88	45.13	56.11	37.94
shopizer	Refactor	26.08k LOC	450	56	45.00 FTE	76.03	47	1.45 person-day	35.43	61.61	69.77	62.60
Unicorn	Refactor	4.27k LOC	34	35	50.00 FTE	76.32	8	0.22 person-day	85.77	73.17	59.39	55.11
Product Management	Refactor	428 LOC	6	44	25.00 FTE	70.87	5	0.16 person-day	100.00	80.83	61.89	54.23
IMDB	Refactor	483 LOC	1	78	50.00 FTE	56.21	0	0.00 person-day	100.00	57.00	71.00	0.00
Budget	Refactor	70 LOC	5	52	50.00 FTE	52.31	1	0.03 person-day	100.00	73.79	75.93	80.29
MultiCloud	Refactor	35 LOC	7	49	15.00 FTE	82.24	0	0.00 person-day	100.00	100.00	78.61	100.00
Loki	Rebuild	405.84k LOC	2.74k	49	45.00 FTE	43.32	1986	58.33 person-day	50.08	45.80	53.53	29.95
Grogu	Rebuild	229.67k LOC	1.78k	72	50.00 FTE	49.29	299	10.95 person-day	90.03	44.09	51.70	27.70
Groot	Retire	63.55k LOC	287	31	15.00 FTE	49.22	400	12.68 person-day	61.81	35.02	32.46	19.23
Mando	Refactor	101.89k LOC	1.08k	85	45.00 FTE	66.22	73	2.24 person-day	53.24	70.08	56.81	63.09
Quill	Rebuild	63.55k LOC	287	41	15.00 FTE	54.32	425	13.46 person-day	61.81	35.02	32.74	19.23
Starlord	Refactor	101.89k LOC	1.08k	46	45.00 FTE	57.94	73	2.24 person-day	53.24	70.08	56.81	63.09

Additional statistics are provided for each application to further refine the roadmap.

Below are the top three Boosters and Blockers to cloud native found across the portfolio.



Here are the top three PaaS Blockers and Boosters observed across the entire portfolio.

Blockers are code level issues that need to be addressed before the application can adopt cloud native services. These are described in more detail on the following pages.

Blocker Detail: Using Stateful Sessions

Cloud Requirement	Impact	Criticality	Contribution	Roadblocks
Persistent Files : Using stateful session (Servlet)	CFA	High	- 5.10 %	376 + 10

Rationale and Recommendation

For modern applications running in the Cloud, it is not recommended to be stateful, especially for sessions as they're not scalable, and are generally harder to replicate and fix bugs (server-side). Ideally, stateful sessions should be replaced by stateless and client-side mechanisms such as cookies, client cache (e.g. Redis, memcache…) or in an external cloud-based storage. This is an important architectural constraint of microservices-style applications, as it enables resiliency, elasticity, and allows any available service instance to execute any task.

Criticality

BLOCKER | HIGH

Migration Impacts

CODE | FRAMEWORK | ARCHITECTURE

Files list

```
\path\to\file1
\path\to\file2
\path\to\file3
```

Searched Code Patterns

For Java applications:

import `javax.servlet.http.HttpSession;`

and `getSession().setAttribute(` or `getSession().putValue(`

Each Blocker is described in detail including remediation advice.

Blocker Detail: Use of File System

Cloud Requirement	Impact	Criticality	Contribution	Roadblocks
Execution Environment : Use file system	CFA	Medium	- 5.05 %	3

Rationale and Recommendation

Cloud applications should not assume the local file system is accessible, as the directory structure might be different from a traditional desktop or server machine and/or the Cloud application may not have sufficient rights to access the local file system. Instead, use relative paths to application resources (e.g. ../../reporting/reportBuilder.xml). Depending on your application context and the Cloud platform where it is deployed, you could also consider using functions or classes like LocalResources to dynamically resolve file paths.

Criticality

BLOCKER | MEDIUM

Migration Impacts

CODE | FRAMEWORK | ARCHITECTURE

Files list

```
\path\to\file1
\path\to\file2
\path\to\file3
```

Searched Code Patterns

Look in source code for strings that contain OS-specific paths:

- `C:\, D:\ … Z:\` for Windows platforms
- `/var, /user, /etc` for Linux platforms

Each Blocker is described in detail including remediation advice.

Blocker Detail: Perform File Manipulation

Cloud Requirement	Impact	Criticality	Contribution	Roadblocks
Persistent Files : Perform File Manipulation	CFA	Medium	- 5.44 %	78

Rationale and Recommendation

Manipulating local files requires specific permissions and usually assumes the file will be persisted over time. In the Cloud, because the underlying infrastructure can be moved or removed, it is not possible to make such assumptions. Instead of using the file system, store your temporary information in a dedicated Cloud-based storage or in a NoSQL database.

Criticality

BLOCKER | MEDIUM

Migration Impacts

CODE | FRAMEWORK | ARCHITECTURE

Files list

```
\path\to\file1
\path\to\file2
\path\to\file3
```

Searched Code Patterns

For Java applications:

`import org.apache.commons.io.FileUtils;` or `import java.io.File;`

and `moveFile()` or `forceDelete()` or `deleteQuitely()` or `copyFile()` or `wri`

Each Blocker is described in detail including remediation advice.

Cloud Boosters & Blockers for **Roslyn Application**

roslyn

48.0	29.5	66.5	1.7	17.2	13260
+ 0.0 %	+ 0.0 %	+ 0.0 %	+ 0.0 %	+ 0.0 %	+ 0.0 %
CloudReady	CloudReady Survey	CloudReady Scan	Boosters	Blockers	Roadblocks

Cloud Requirement	Technology	Impact	Criticality	Contribution	Roadblocks	Est. Effort
Security & User Authentication : Use of unsecured network protocols (HTTP, FTP)	C#	C	Low	- 1.00 %	7071	**147.31** person-day
Security & User Authentication : Hardcoded URLs using HTTP protocol	C#	C	Low	- 0.13 %	4958	**154.94** person-day
Execution Environment : Using file system	C#	CFA	Medium	- 2.01 %	693	**21.66** person-day
Persistent Files : Perform File Manipulation	C#	CFA	Medium	- 1.00 %	152	**4.75** person-day
Application Logs : Correct usage of Logging	C#		Low	+0.83 %	0	N/A
Application Logs : Detect usage of Log4Net	C#	CF	Low	+1.00 %	0	**0.00** person-day
Application Logs : Detect usage of Log4Net	VB/VB.Net	CF	Low	+0.99 %	0	**0.00** person-day
Application Settings Configuration : Using ConfigurationManager	C#		Low	+0.83 %	0	N/A

Insights are available at the application level to understand the specific Blockers that occur within each application and estimated effort to remove them so that the modernization plan can be further refined based on individual application characteristics.

Cloud Native Service Recommendations for **Roslyn Application**

roslyn

Platform: Amazon Web Services

4 Eligible Amazon Web Services Cloud services

AWS Batch

Fully managed batch processing at any scale

Triggered Requirement	Details
Ksh technology in use	168 LoC

Considerations

For your ETL use cases, you might consider using AWS Glue. For other batch oriented use cases, including some ETL use cases, AWS Batch might be a better fit

Technical Documentation | Get started with AWS Batch

Amazon CloudWatch

Observability of your AWS resources and applications on AWS and on-premises

Triggered Requirement	Details
Application Logs: Correct usage of Logging ? C#	Booster

Technical Documentation | Get started with Amazon CloudWatch

Amazon EC2

Secure and resizable compute capacity in the cloud. Launch applications when needed without upfront commitments

Triggered Requirement	Details
C# technology in use	1.18m LoC

Technical Documentation | Get started with Amazon EC2

Amazon S3

Object storage built to store and retrieve any amount of data from anywhere

Triggered Requirement	Details
Persistent Files: Perform File Manipulation ? VB/VB.Net	1
Persistent Files: Perform File Manipulation ? C#	152
Application Logs: Correct usage of Logging ? C#	Booster

Technical Documentation | Get started with Amazon S3

Specific cloud native services on AWS, Azure, Google Cloud, or IBM Cloud are recommended based on each application's technical characteristics.

Applications to **Refactor** for PaaS (less effort):

- Roslyn, Shopizer, Unicorn, Product Management, IMDB, Budget, MultiCloud, Mando, Starlord

Applications to **Rearchitect** for PaaS (medium effort):

- Hadoop

Applications to **Rebuild** for PaaS (most effort):

- GCP-Client

Applications to **Retire**:

- Cassandra, Groot

The cloud native adoption recommendations are then summarized to develop the overall roadmap for the portfolio.

Top cloud native services to adopt on AWS:

- AWS Batch, Amazon EC2, Amazon ECS, Amazon EKS, Amazon S3

Addtional recommendatons:

- Investigate Health of each application to understand opportunities to improve resiliency and agility.
- Analyze Software Composition of each application to identify any open-source components that need to be upgraded and/or replaced due to CVEs, license risk, or obsolesence.
- Investigate Green Impact of each application to identify opportunities for reducing energy consumption and carbon emissions.

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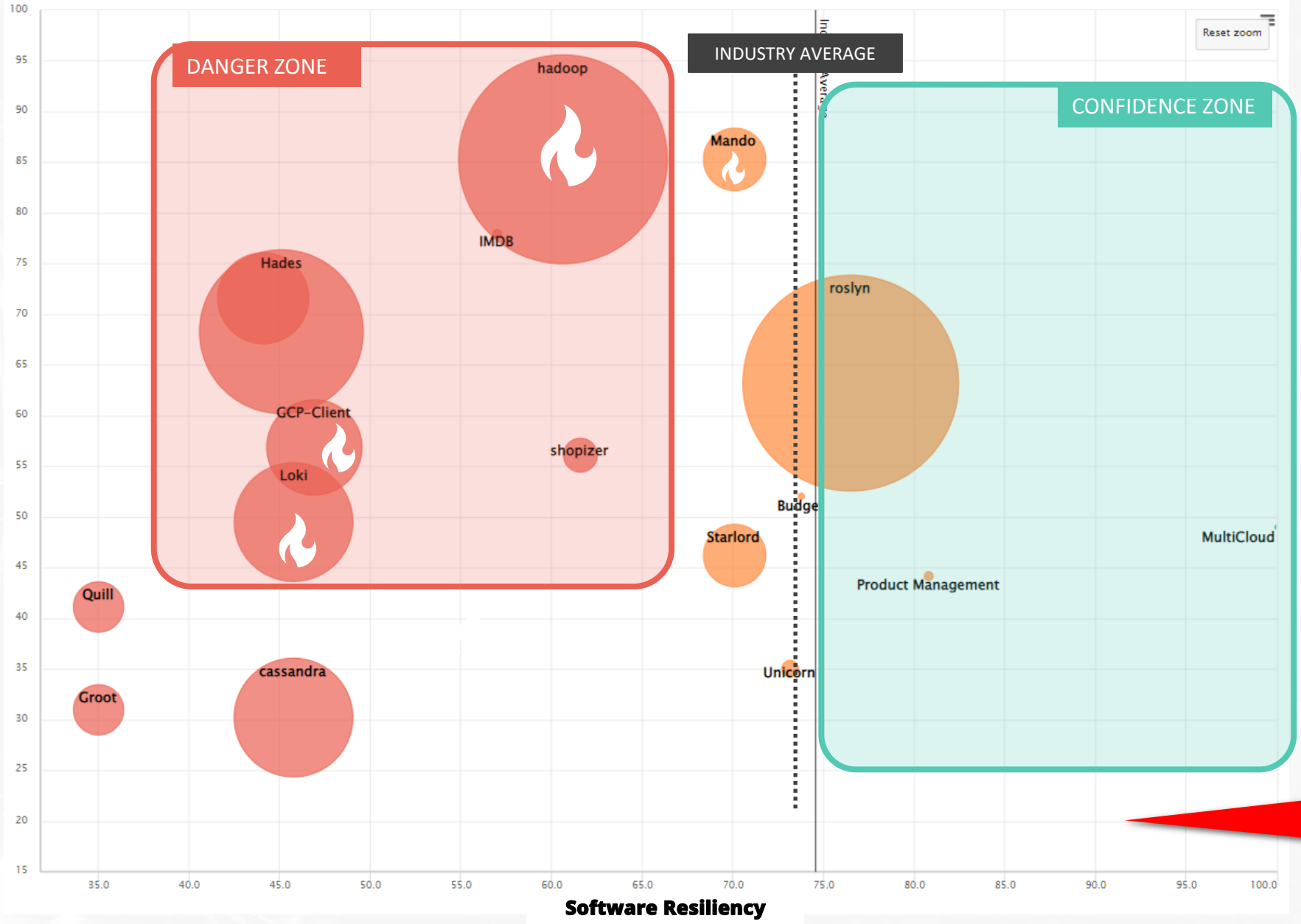
Roadmap to Cloud Native - Sample Report

Software Health

This section of the report contains key insights generated by CAST Highlight on the Software Health of applications that should be addressed during modernization including:

- Applications that are business critical and have low Resiliency
- Specific improvement opportunities within the code to improve Resiliency
- Summarized action plan for the application portfolio

Software Resiliency vs Business Impact



DANGER ZONE

Hadoop	Loki
Hades	IMDB
Grogu	Shopizer
GCP-Client	

CONFIDENCE ZONE

MultiCloud	Product Management
Roslyn	

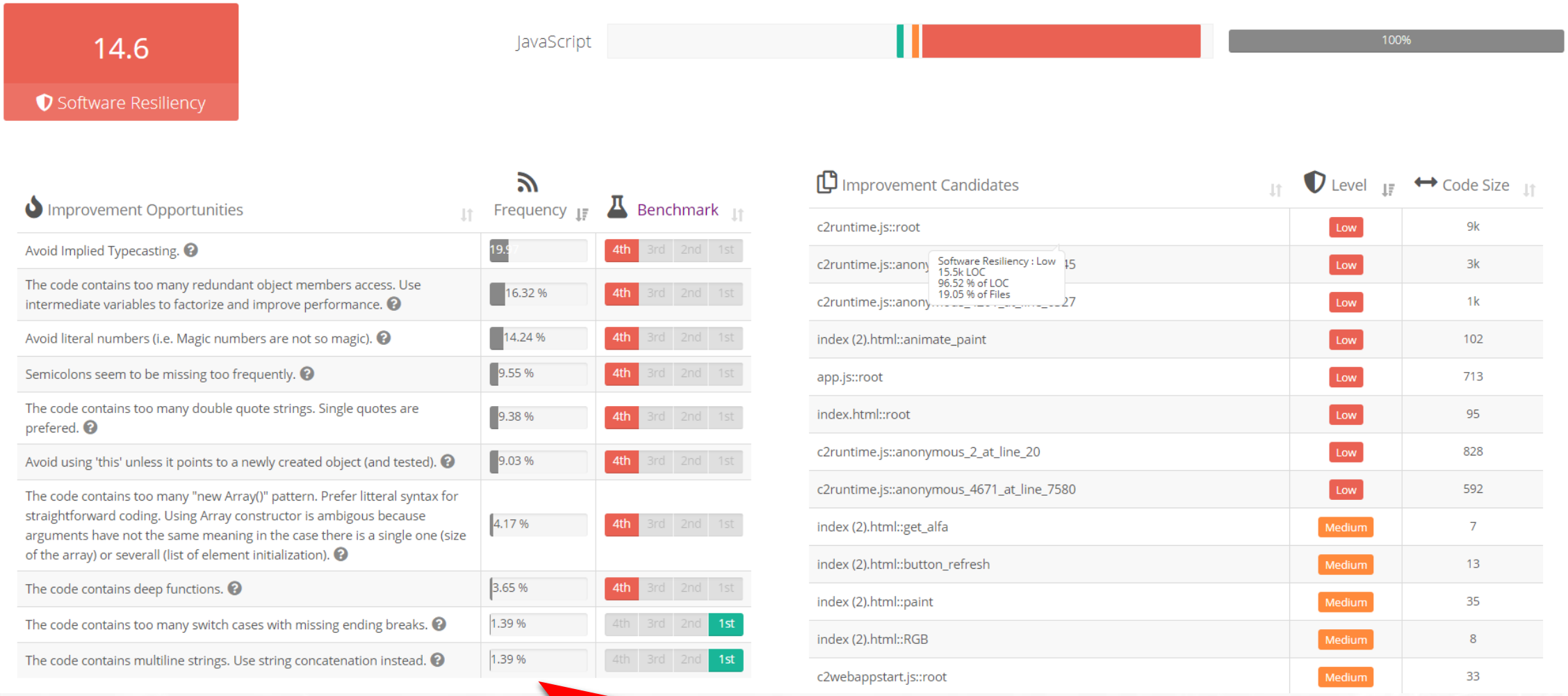
VULNERABILITIES

Loki	Mando
Hadoop	GCP-Client

Detected Common Vulnerabilities from Software Composition Analysis

Application Health insights (such as Resiliency) are analyzed to ensure unhealthy applications are improved while modernizing.

Software Resiliency for **Loki Application**



Unhealthy applications are analyzed at a deeper level to understand specific code-level improvement opportunities.

Some applications have Resiliency scores that are severely low. Code alerts should be remediated before modernization for cloud native on these applications:

- Hades
- Loki
- Grogu

Security Vulnerabilities were identified in a few applications and a deeper Software Composition Analysis should be performed to investigate the open source components in these applications further:

- Loki
- Hadoop
- Mando
- GCP-Client

Additional recommendations on how to improve Software Health issues and potential security vulnerabilities are summarized.

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Roadmap to Cloud Native - Sample Report

Software Composition Analysis

This section of the report contains key insights generated by CAST Highlight on the Software Composition (open source risks) of applications that should be addressed during modernization including:

- Security vulnerabilities to be addressed
- Risky open source licenses that create potential legal exposures
- Summarized action plan for the application portfolio

Software Composition Analysis Overview

Check Third-Party Vulnerabilities

Open source is one of the major entry points for hackers. It is critical to identify if the third-party components in use contain security vulnerabilities.

Control Open Source License Compliance

Open source licensing can be complex and confusing. Visibility on the licenses used by open source components is required to detect any restrictive license compliance issues.

Reduce Technology Obsolescence

Open source components can become out of date or unsupported resulting in operational risks and outages. These out of date components must be detected and replaced with supported components.

Third-Party Component Vulnerabilities

Portfolio Insights & Top 5

88	159	169	13	23
CRITICAL	HIGH	MEDIUM	LOW	ADVISORY

Top 5	Business Impact	Possible Vulnerabilities
hadoop	85.3	9 11 34 2 6
Grogu	71.6	1 0 2 0 0
Hades	68.3	0 10 3 0 3
GCP-Client	56.9	4 8 17 1 4
Loki	49.5	29 50 26 3 1

The number and criticality of open source security vulnerabilities are identified across the portfolio.

Vulnerabilities

Application	Components
Hadoop	cxf-rt-transports-http-jetty 3.0.3, slf4j-api 1.7.7, jsch 0.1.42
Grogu	Microsoft.Practices.EnterpriseLibrary.Logging 4.1.0.0, Microsoft.Practices.EnterpriseLibrary.Common 4.1.0.0
Hades	cxf-rt-frontend-jaxws 2.7.5
GCP-Client	minimatch 3.0.0, useragent 2.1.12, qs 2.3.3, decamelize 1.1.1, parsejson 0.0.3, hapi 15.x.x,
Loki	tomcat-embed-core 7.0.73, slf4j-api 1.7.7, cxf-rt-frontend-jaxws 2.7.12, is-my-json-valid 2.12.0, ua-parser-js 0.7.12, marked 0.3.6, minimatch 3.0.0, useragent 2.1.11, jquery 1.7.2, hibernate-validator 4.2.0.Final,
Other applications	openjpa-persistence-jdbc 2.1.1, commons-fileupload 1.2.1, jackson-databind 2.5.3, dom4j 1.6.1, jsoup 1.8.1, derby 10.1.1.0 ...

Specific open-source components with vulnerabilities in each application are identified.

Third-Party Component License Risk

Portfolio Insights & Top 5

531	25	50	412	12
Components	HIGH RISK	MEDIUM RISK	LOW RISK	Undefined

Top 5	Business Impact	Licenses
hadoop	85.3	17 16 181 2
Mando	85.3	1 0 0 1
Grogu	71.6	0 0 2 0
Hades	68.3	1 16 106 4
roslyn	63.2	0 0 2 0

The number and risk levsls of open source licenses are identified across the portfolio.

License Risk Detail

License Risk

Application	3rd-Party Components	Licenses
Hadoop	7	MIT License (2), Apache 2.0 (1), BSD-3 New
Mando	12	Apache 2.0 (3), GNU Affero GPL 3.0 (2)
Grogu	4	MIT License (2), ISC License (1)
Hades	379	MIT License (358), ISC License (39), Apache 2.0 (16), Eclipse 2.0 (1), BSD 2 (14), GNU Affero GPL 3 (1), BSD 3 (1)
Roslyn	32	MIT License (2), Apache 2.0 (1), GNU GPL 3 (4)

Applications that use open source components with risky licenses are highlighted.

Software Composition Recommendations

Hadoop: Upgrade jsh component to latest version to reduce critical vulnerability risk

Hades:

- Upgrade hibernate component to latest version to reduce critical vulnerability risk
- Replace component that uses the GNU GPL license to avoid copyleft licensing risk

Mando: Replace component that uses the GNU GPL license to avoid copyleft licensing risk

Roslyn: Replace component that uses the GNU GPL license to avoid copyleft licensing risk

Specific recommendations on how to reduce open source vulnerability and license risk are summarized.

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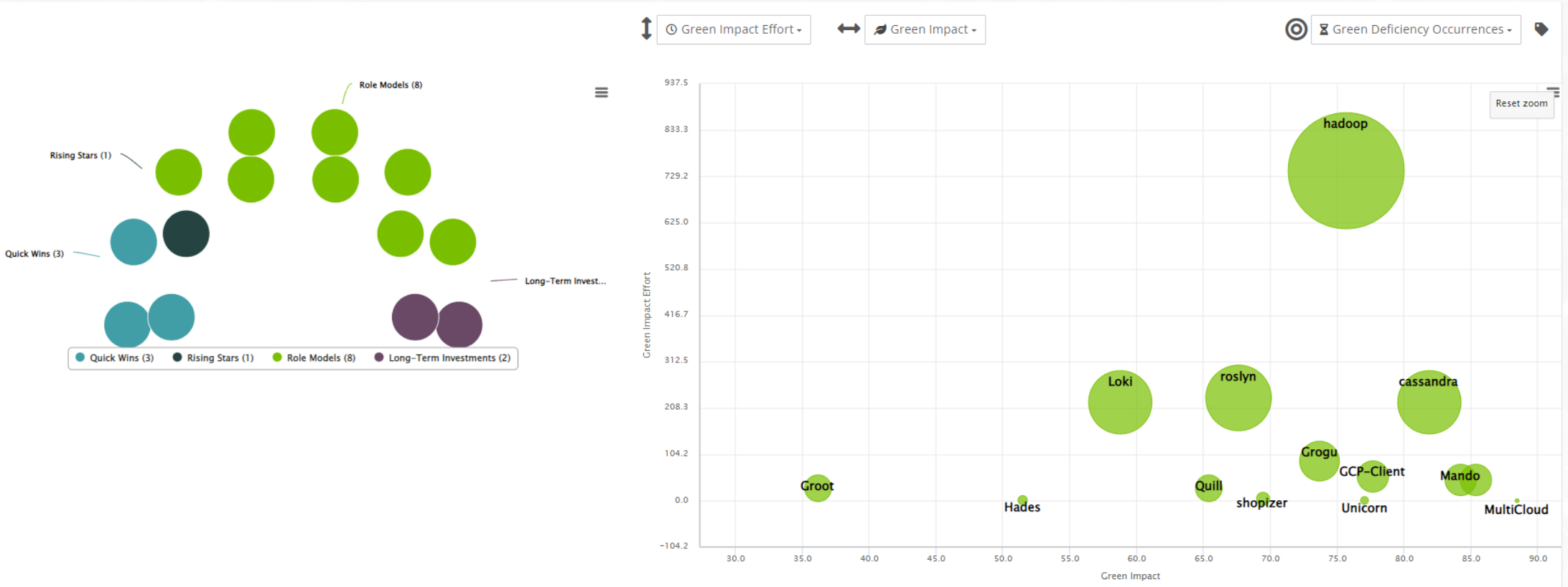
Roadmap to Cloud Native - Sample Report

Green Impact

This section of the report contains key insights generated by CAST Highlight on the Green Impact of applications that should be addressed during modernization including:

- Prioritized actions to take for applications to improve green impact
- Green Deficiencies in the code, estimated effort to remove them, and the required code changes
- A view of the Green Impact score trends over time
- Summarized action plan for the application portfolio

Portfolio Advisor for Green



3
Quick Wins
Applications that represent the best opportunity to improve your Green Impact score with the least amount of effort.

1
Rising Stars
Business critical applications that will require more effort to improve the Green Impact score but will be strategic for the organization for the foreseeable future.

8
Role Models
Applications that are already using environmentally friendly coding practices.

2
Long-Term Investments
Applications that have a low Green Impact score and will require significant effort to improve, but will have a strong payoff in the long run.

The Portfolio Advisor for Green automatically identifies opportunities to improve sustainability and Green Impact of applications across your portfolio.

Green Deficiencies

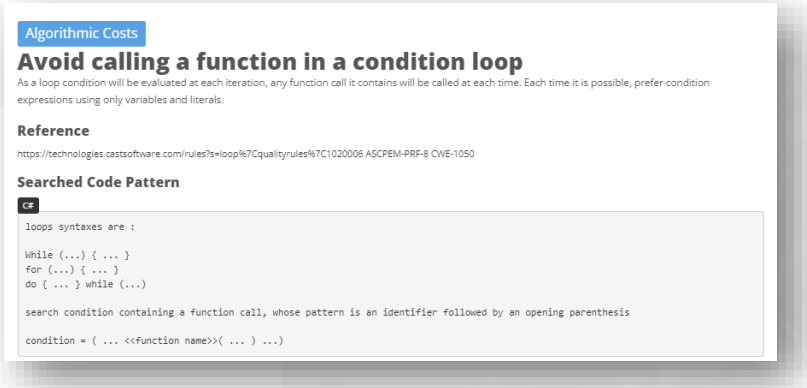
Green Deficiency	Technology	Occurrences	Green Impact Effort ?	Total Apps
Resource Economy : Prefer literal initialisation	Java	806	**8.40** person-day	9
Avoiding Failure : Avoid empty catch blocks	Java	2171	**45.23** person-day	9
Algorithmic Costs : Prefer comparison-to-0 in loop conditions	Java	12824	**133.58** person-day	9
Algorithmic Costs : Avoid instantiations inside loops	Java	8828	**183.92** person-day	9
Algorithmic Costs : Avoid String concatenation in loops	Java	11644	**242.58** person-day	9
Algorithmic Costs : Avoid calling a function in a condition loop	Java	6231	**389.44** person-day	9
Resource Economy : Avoid Programs not using explicitly OPEN and CLOSE for files or streams	Java	381	**7.94** person-day	8
Resource Economy : Use a virtualised environment where possible	Java	1953	**81.38** person-day	8
Algorithmic Costs : Avoid nested loops	Java	4036	**252.25** person-day	8
Resource Economy : Avoid OPEN/CLOSE inside loops	Java	541	**22.54** person-day	5
Algorithmic Costs : Prefer comparison-to-0 in loop conditions	C#	3173	**33.05** person-day	4
Resource Economy : Use a virtualised environment where possible	C#	911	**37.96** person-day	4
Algorithmic Costs : Avoid instantiations inside loops	C#	2900	**60.42** person-day	4

The Green Deficiency patterns in the code that contribute to excess resource utilization and energy consumption are identified across the portfolio including number of occurrences, effort to remediate, and the specific applications where they occur.

Green Deficiencies Detail for **Mando Application**

Mando

84.3	97.7	70.8	1668	46.6
+ 29.6 %	+ 64.9 %	+ 0.0 %	+ 0.0 %	+ 0.0 %
Green Impact	Green Impact Survey	Green Impact Scan	Green Deficiency Occurrences	Green Impact Effort



Green Deficiency	Technology	Contribution	Occurrences	Green Impact Effort
Algorithmic Costs : Avoid calling a function in a condition loop	C#	- 5.14 %	39	**2.44** person-day
Algorithmic Costs : Avoid instantiations inside loops	C#	- 4.00 %	662	**13.79** person-day
Algorithmic Costs : Avoid nested loops	C#	- 8.00 %	349	**21.81** person-day
Algorithmic Costs : Avoid String concatenation in loops	C#	- 4.00 %	123	**2.56** person-day
Algorithmic Costs : Prefer comparison-to-0 in loop conditions	C#	- 4.00 %	444	**4.63** person-day
Avoiding Failure : Avoid empty catch blocks	C#	- 1.32 %	30	**0.63** person-day
Resource Economy : Avoid OPEN/CLOSE inside loops	C#	- 0.35 %	4	**0.17** person-day
Resource Economy : Avoid Programs not using explicitly OPEN and CLOSE for files or streams	C#	- 0.70 %	4	**0.08** person-day
Resource Economy : Avoid using 'System.gc' and 'Runtime.gc'	C#	- 0.70 %	2	**0.00** person-day
Resource Economy : Use a virtualised environment where possible	C#	- 0.97 %	11	**0.46** person-day

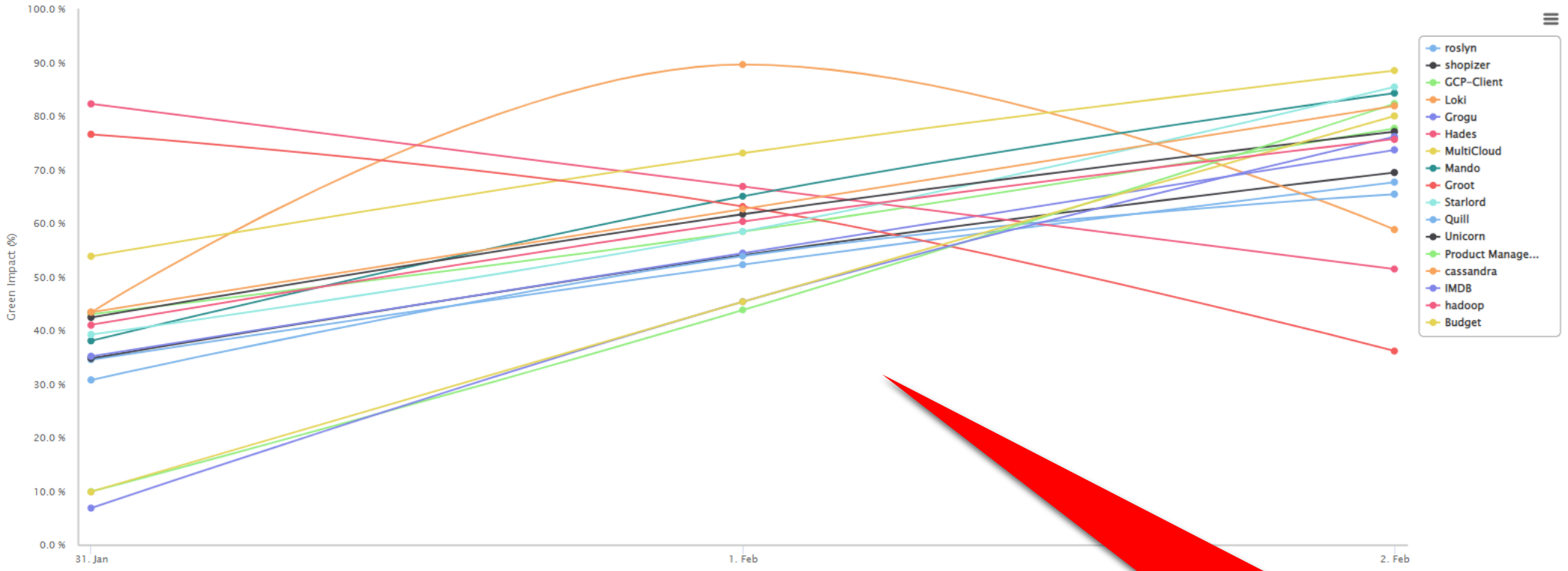
Insights are available at the application level to understand the specific Green Deficiencies that occur within each application, estimated effort to remove them, and remediation advice so that applications can be made more sustainable as part of the modernization.

Green Impact Trends

Health Factors | Code Size | Maintenance | CloudReady | Open Source | Green Impact

Green Impact | Green Impact Survey | Green Impact Scan | Green Deficiency Occurrences | Green Impact Effort

Trends : Value



Applications are continuously monitored to view progress being made on green impact (and other metrics) across all applications.

Green Impact Recommendations

Shopizer: Remove the top 10 Green Deficiencies, less than one week of estimated effort

Quill: Remove top 2 Green Deficiencies, less than two weeks of estimated effort

Mando: Remove top Green Deficiency, two weeks of estimated effort

Applications to address in the future:

- Groot
- Roslyn
- Grogu

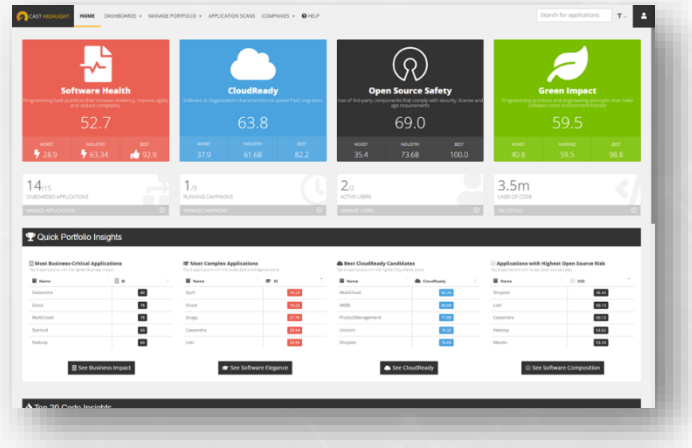
Review two “Role Model” applications to identify best practices to share across the team:

- MultiCloud
- Starlord

Specific recommendations on how to improve Green Impact are summarized.

Why CAST Highlight?

CAST Highlight gives enterprise leaders rapid insights across entire portfolios. Automated source code analysis with built-in surveys for business context. Portfolio views. Instant drilldowns. Recommendations. Operational in a week. Across hundreds of applications.



- **Accelerate** Cloud Migration
- **Improve** Green Impact
- **Manage** Open Source Risk
- **Optimize** Tech Due Diligence

Software Health
Resiliency
Agility
Technical Debt

Cloud Readiness
Roadmaps
Blockers & Effort
Cloud Native Services

Software Composition
OSS Vulnerabilities
OSS IP / Licensing Risks
SBOM

Green Impact
Deficiencies
Remediation Advice
Trends

Trusted By:

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Appendix

Date

Data Collection for CAST Highlight

A simple, 3-step process…

Step 1 - Point CAST Highlight at your code repositories for automatic scanning and rapid analysis, updated continuously and automatically, complete survey for each application to enhance context

Step 2 – Encrypted statistical results uploaded to secure cloud (27001-certified), no code leaves the premises

Step 3 – Instant visibility with automatically generated and customizable dashboards, integrate data with other systems via API

Key Metrics & Methodology Definitions

Key Metric	Description	Direct Interpretation	Business Impact
CloudReady	Measure of software and organization characteristics to speed PaaS migration	Significant number of roadblocks found that could slow down a Cloud migration	Opportunity to reduce cost, increase elasticity and embrace innovation
Software Resiliency	Measure the robustness and how bullet-proof is the Software against production failure	Reflects presence of code patterns that may comprise vulnerability of the software	Customer Satisfaction Customer Confidence / Loyalty Opportunities & Revenue
Software Agility	Measure to indicate the easiness of a development team to understand and maintain an application	Reflects absence of embedded documentation and code readability good practices	Maintenance Cost Transferability
Software Elegance	Measures the ability to deliver software value with less code complexity	Indicates decreased quality in code, resulting in higher defects that become costly to fix	Time to Market Innovation
Open Source Safety	Measure risk associated with the use of 3rd-party components that comply security, license, and age requirements.	Analysis of open-source and 3rd-party components in use that could include security vulnerabilities, risky licensing requirements, or obsolete technology.	Reduce security risk, reduce legal exposure, reduce operational risk
Green Impact	Measure programming practices and engineering principles that make software more environmentally-friendly.	Identification of Green Deficiency patterns in the code of applications that contribute to excess resource utilization and energy consumption.	Support ESG requirements, make software greener, more resilient, less expensive, and more performant

CloudReady Index Calculation Formula

CloudReady
45.2

=

Based on **CloudReady Survey****
13.4
(weight of 50%)

+

Based on **CloudReady Scan*****
77.1
(weight of 50%)
Code Patterns Score

Hundreds of Code Patterns
Targeted to coding language (Java, C#, VB.Net, T-SQL, PHP, Python)
Positive (**Boosters**) or Negative (**Roadblocks**) contribution
Criticality level (critical, high, medium, low)
Impact ar CFA (**C**ode, **F**ramework, **A**rchitecture)

Boosters
5.6
Based on Positive Code Patterns (weight of 10%)

Blockers
5.0
Based on Negative Code Patterns (weight of 40%)

****CloudReady Survey** score - from 0 to 100 - relies on the answers provided by the Application Owner. Depending on the importance of a question, its answers may impact the score differently.
*****CloudReady Code Scan** score - from 0 to 100 - relies on both Booster and Blocker scores, where Booster and Blocker scores respectively account for 20% and 80% in the Code Scan score.