

Risk Indicators - Transaction Level

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Page frame name:

FRAME_PORTAL_TRANSACTION_VIEW

This view is designed to:

- Identify transactions with highest cumulated risk - i.e. a Transaction Risk Index (TRI)
- Support Action Plan generation

In effect, this view will:

1. Compute Transactions using CAST's OMG Automated Function Point estimation algorithm:
 - a. Objects on the call path (between the Transaction entry point and the data) and that have violations relating to the selected Health Factor are displayed in the view
 - b. Objects outside of the call path are not displayed in the view, however they can impact ranking
2. For each object in the transaction/call path, the VI (Violation Index) is calculated, taking into account the Rule weight and the Health Factor (Robustness, Efficiency, or Security)
3. The TwRI is equal to the sum of all VI values for all objects in the call path/transaction

 Note that a transaction/call path is determined using **all link types** from the **entry point** to the **end point/data function** (these are all the links that are available in the **Acc** table in the CAST Analysis Service). The only exception to this rule is that some **{Ae}** (Internally Escalated Access Execute) links are not taken into account (these are links with inftyp = 110 and infsubtyp = 20 in the Objinf table in the CAST Analysis Service).

This is then translated into the Transaction View that lists transactions sorted by Transaction Risk Index (TRI) in descending order:

- Regarding Robustness, Efficiency, or Security
- With the ability to send all Violations to the [Improvement - Action Plan](#) (or to exclude them).

You can then drill-down on a transaction, listing all objects with violations:

- Grouped by objects, rules, or not
- With the ability to send all Violations to the [Improvement - Action Plan](#) (or to exclude them)

 This view requires access to at least one Application.

Layout

My System - MEUDON Risk Indicators - Transaction Level CAST

STATISTICS		CUR.	PREV.
Critical Violations	-	47	-
- per File	-	1.52	-
- per kLOC	-	21.42	-
Complex Objects	-	1	-
- w/ violations	-	0	-
Cur. Snapshot		09-19-2014	
First Snapshot		09-19-2014	
Snapshots		1	

QUALITY INDEXES			MAX	MIN	CUR.
TQI			2.78	2.78	2.78
SEI			3.35	3.35	3.35

FUNCTIONAL WEIGHT		CUR.	PREV.
Total CC		319	-
SFP		12	-
AFP		68	NotCalib

TECHNICAL SIZE		CUR.	PREV.
kLOCs		2	-
Files		31	-

TECHNOLOGIES TOP 5 (kLOCs)		CUR.	PREV.
JEE		1	-
Microsoft T-SQL		1	-

TRI
744

Transaction: [ListAuthors.jsp](#)

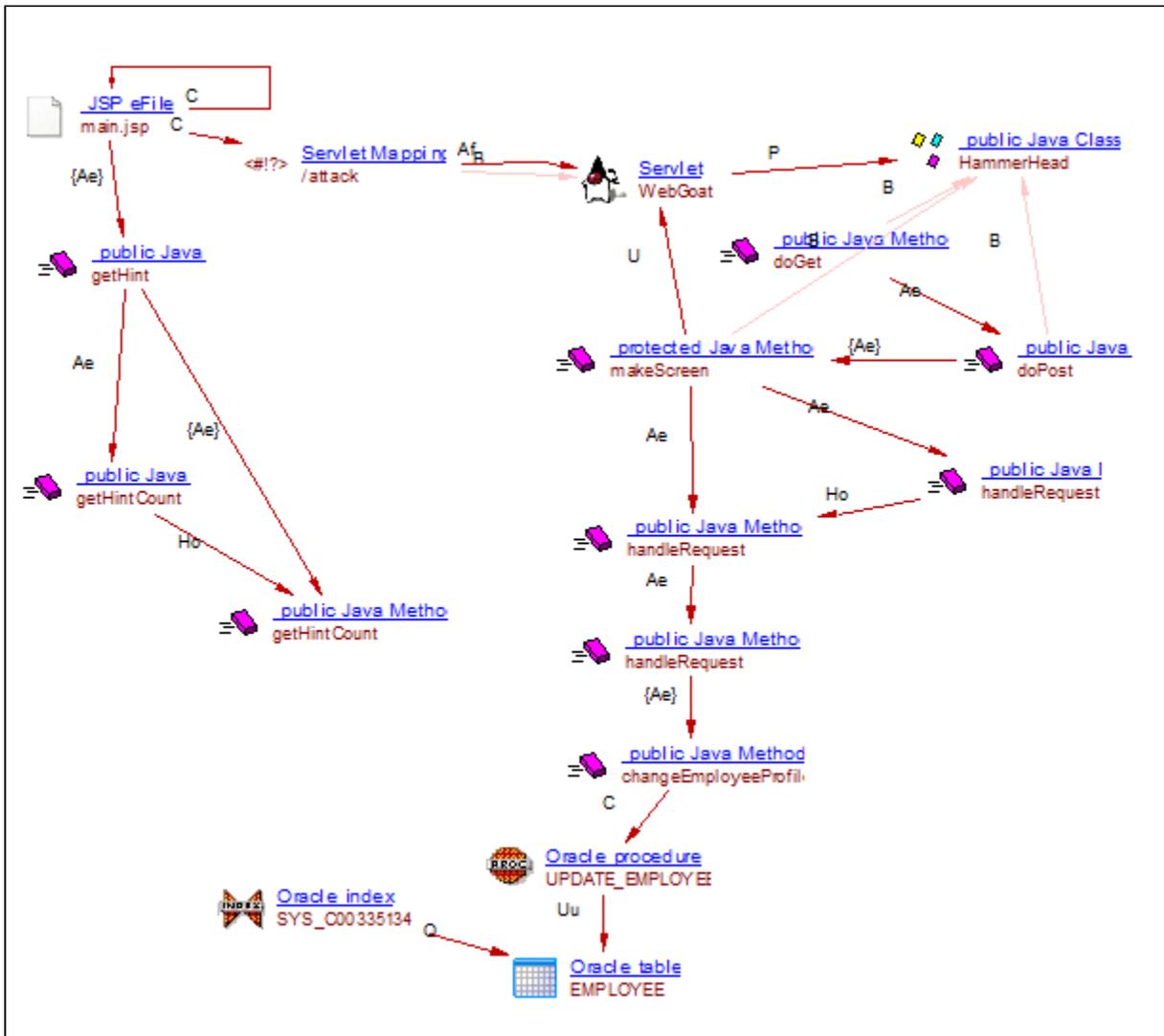
Left hand panel

Please see the section **Left hand panel** in [Using the CAST Engineering Dashboard](#) for more information about this.

Computation principles

Compound Violation Index values along the transactions:

- Across the layers
- Across the technologies and languages
- Filtering on the Health Factor:
 - Robustness,
 - Efficiency,
 - or Security



In this screen capture, objects are visible in the call graph yet outside of the direct path towards the data entities that will contribute to the TRI as their violations can impact the Security, Efficiency, and Robustness risk levels.

Sample use case

1. Identify transactions with highest cumulated risk using the Transaction-wide Risk Index
2. Generate an Action Plan to reduce the risk of selected transactions
 - Those with highest risk level
 - Those that matter most to the business
 - Those that are the most widely used
 - ...

Benefits

- Customers are empowered with a solution to accurately target issues in transactions that directly support the business.
- ... and do something about it!

More specifically:

- Transaction Risk Index (TRI) provides a concrete measure of the risk level of user-facing features
- Transaction Risk Index (TRI) provides support for quality investigation and improvement that is aligned with end-users' concerns, i.e., the features they are actually using