



Governo do Distrito Federal

Departamento de Trânsito do Distrito Federal (DETRAN/DF)

**PREGÃO ELETRÔNICO 026/2022**

**UASG 926142**

## **RELATÓRIO DE PROVA DE BANCADA**

**DATA DA DEMONSTRAÇÃO:** EM CUMPRIMENTO AO ITEM 13.3.5, A ETAPA DE DEMOSTRAÇÃO INICIOU-SE NO DIA 25/01/2023 COM A FASE DE COLETA DE INFORMAÇÕES PARA VIABILIZAÇÃO DO TESTE DE BANCADA COM DADOS REAIS E FOI CONCLUÍDA NO DIA 26/01/2023 NO HORÁRIO DE 09HRS ÀS 13HRS, NÃO EXTRAPOLANDO O LIMITE DE 08HRS ÚTEIS PREVISTOS.

**HORÁRIO DA DEMONSTRAÇÃO:** 09H00M ÀS 13H00M

**REMOÇÃO DOS AGENTES:** EM CUMPRIMENTO AO ITEM 13.9.1, JÁ ESTÁ AGENDADO A RETIRADA DOS AGENTES PARA O DIA 27/01/2023, EM RESPEITO A JANELA DE MANUTENÇÃO DEFINIDA PELO DETRAN/DF.

**AMBIENTE DEMONSTRAÇÃO SOLUÇÃO APM (ITEM 12.3 DO TR) – DYNATRACE:** SAAS - [HTTPS://TGP11329.LIVE.DYNATRACE.COM/](https://TGP11329.LIVE.DYNATRACE.COM/)

**AMBIENTE DEMONSTRAÇÃO SOLUÇÃO SEGURANÇA (ITEM 12.4 DO TR) – VERACODE:** SAAS - [HTTPS://WEB.ANALYSISCENTER.VERACODE.COM](https://WEB.ANALYSISCENTER.VERACODE.COM)

**PARTICIPANTES VERY:** FABIO CAETANO DOURADO, DORGIVAL MARTINS BARROS, HANDERSON MEDEIROS, IVO DIAS



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**PARTICIPANTES DETRAN-DF (COMISSÃO TÉCNICA):** HENRIQUE SODRÉ – *DIRETOR DE TECNOLOGIA SUBSTITUTO*, CARLOS AUGUSTO MONTEIRO – *GERENTE DE TECNOLOGIA (SONDA IT)*, ANTONIO CARLOS FERNANDES – *ESPECIALISTA EM SEGURANÇA (SONDA IT)*, DANNIEL MODESTO PIZZATO – *ENGENHEIRO DE REDES (SONDA IT)*

#### **PROVA DE BANCADA – ITEM 13.3 DO TERMO DE REFERÊNCIA**

13.3.3. A LICITANTE **deverá disponibilizar técnico especializado** nas ferramentas apresentadas para que a demonstração seja feita, item-a-item. Dessa forma, na presença da equipe técnica do DETRAN-DF, a LICITANTE irá demonstrar o atendimento às funcionalidades. Além dos requisitos funcionais, o DETRAN-DF poderá solicitar a demonstração de comportamentos e outros requisitos que estão especificados neste Termo de Referência. Assim sendo, o ferramental de software deve atender a todos os requisitos especificados neste Termo de Referência;

**PARTICIPANTES VERY:** FABIO CAETANO DOURADO, DORGIVAL MARTINS BARROS, HANDERSON MEDEIROS, IVO DIAS

**PARTICIPANTES DETRAN-DF:** (COMISSÃO TÉCNICA DESTACADA ACIMA)

13.5. Para agendamento da prova de bancada ou acompanhamento, deverá ser utilizada o endereço eletrônico [dirtec@detran.df.gov.br](mailto:dirtec@detran.df.gov.br)



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qua 25/01/2023 21:06



dorgival.barros@verytecnologia.com.br

Pregão Eletrônico 26/2022 - Agendamento de prova de bancada

Para 'dirtec@detran.df.gov.br'

Cc 'Comercial - Very Tecnologia'

Senhores,

Boa noite. Tudo bem?

Em relação ao pregão eletrônico 26/2022 e em atendimento ao item 13.5 do Termo de Referência "13.5 Para agendamento da prova de bancada ou acompanhamento, deverá ser utilizada o endereço eletrônico [dirtec@detran.df.gov.br](mailto:dirtec@detran.df.gov.br)", solicitamos **agendamento** para execução da **prova de bancada** para o dia **26/01/2023 às 09hrs**.

Atenciosamente,



**Dorgival Martins Barros**  
[dorgival.barros@verytecnologia.com.br](mailto:dorgival.barros@verytecnologia.com.br)  
tel. **61 3306.3307** • cel. **61 98199.1710**

SCN Quadra 01 Bloco F Sala 1407  
Ed. América Office Tower  
Brasília DF - CEP 70711.905



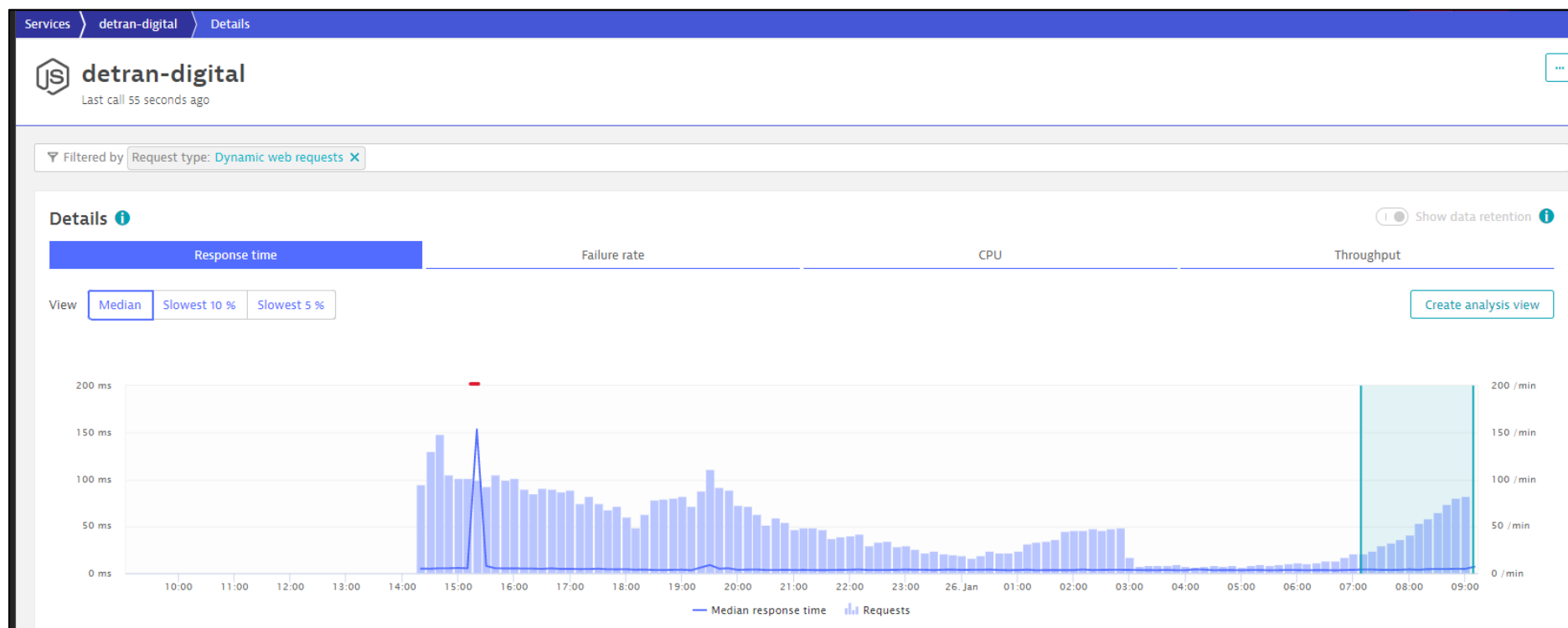


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### SOLUÇÃO DE APM

12.3.1. A solução de software que deverá ser utilizada para apoio aos serviços especializados deve ser capaz de coletar, armazenar e analisar de forma automática as informações para que os resultados esperados por este projeto sejam alcançados.



12.3.2. Não há a definição de nenhum tipo específico de solução de software a ser contratado. No entanto, a solução de software deve disponibilizar funcionalidades que sejam capazes de gerar os resultados esperados.



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12.3.3. Como um dos objetivos do projeto é a integração de informações para permitir o correlacionamento do desempenho negocial do DETRAN-DF com as questões tecnológicas, a solução de software a ser utilizada deve ser única e integrada, não sendo permitida a composição de várias soluções para obtenção do resultado. Neste caso, haveria a necessidade de customizações e integrações o que poderia gerar mais custos ou mesmo dificultar a obtenção dos resultados. A instalação e disponibilização da solução de software deverá ser feita pela contratada sem custo adicional a este projeto.

The screenshot displays the Dynatrace Dashboards page. The left sidebar contains a navigation menu with categories like Favorites, Observe and explore, Infrastructure, and Cloud Automation. The main content area shows a list of 9 dashboards with columns for Favorite, Name, Popularity, Modified at, and Owner. The dashboards listed include Synthetic Monitoring, Davis® health self-monitoring, Real User Monitoring, Metric & Dimension Usage + Rejections, Kubernetes cluster overview, OneAgent Traces - Adaptive traffic management, Kubernetes workload overview, teste (Custom charts), and Kubernetes namespace resource quotas.

Favorite	Name	Popularity	Modified at	Owner
☆	Synthetic Monitoring Preset		Jan 20 09:43	Dynatrace
☆	Davis® health self-monitoring Preset		Jan 20 09:43	Dynatrace
☆	Real User Monitoring Preset		Jan 20 09:43	Dynatrace
☆	Metric & Dimension Usage + Rejections Preset		Jan 20 09:43	Dynatrace
☆	Kubernetes cluster overview Preset		Jan 20 09:43	Dynatrace
☆	OneAgent Traces - Adaptive traffic management Preset		Jan 20 09:43	Dynatrace
☆	Kubernetes workload overview Preset		Jan 20 09:43	Dynatrace
☆	teste Custom charts		Jan 25 21:32	dorgival.barros@verytecnologia.cc
☆	Kubernetes namespace resource quotas Preset		Jan 20 09:43	Dynatrace

12.3.4. A solução de software deverá disponibilizar as seguintes funcionalidades abaixo.



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12.3.4.1. Para atender aos requisitos funcionais especificados, poderá ser utilizada mais de uma ferramenta de software, desde que devidamente integrada e gerenciada por uma interface única.

The screenshot displays the Dynatrace Dashboards management interface. On the left, a dark sidebar contains a navigation menu with categories like 'Favorites', 'Observe and explore', 'Infrastructure', and 'Cloud Automation'. The main content area is titled 'Dashboards' and includes a search bar, a 'Filter by' dropdown, and a table of 9 dashboards. The table has columns for 'Favorite', 'Name', 'Popularity', 'Modified at', and 'Owner'. Each row represents a dashboard with a star icon for favoriting, a name, a popularity bar, a modification timestamp, and an owner name. A 'teste' dashboard is highlighted in yellow. The interface also includes buttons for 'Import dashboard' and 'Create dashboard'.

Favorite	Name	Popularity	Modified at	Owner
★	Synthetic Monitoring Preset	██████████	Jan 20 09:43	Dynatrace
★	Davis® health self-monitoring Preset	██████████	Jan 20 09:43	Dynatrace
★	Real User Monitoring Preset	██████████	Jan 20 09:43	Dynatrace
★	Metric & Dimension Usage + Rejections Preset	██████████	Jan 20 09:43	Dynatrace
★	Kubernetes cluster overview Preset	██████████	Jan 20 09:43	Dynatrace
★	OneAgent Traces - Adaptive traffic management Preset	██████████	Jan 20 09:43	Dynatrace
★	Kubernetes workload overview Preset	██████████	Jan 20 09:43	Dynatrace
★	teste Custom charts	██████████	Jan 25 21:32	dorgival.barros@verytecnologia.cc
★	Kubernetes namespace resource quotas Preset	██████████	Jan 20 09:43	Dynatrace

12.3.4.2. A console de gerenciamento deverá ter controle de acesso e permissões.



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The screenshot displays the Dynatrace user management interface. At the top, there is a navigation bar with the Dynatrace logo on the left and a 'Buy or extend' button on the right. Below the navigation bar, a teal breadcrumb trail shows the path: Accounts > DETRAN > Identity management > **User management** > Invite user. The 'User management' tab is circled in yellow. Below the breadcrumb, there is a 'Filter by' dropdown menu. The main content area shows a table of user groups with checkboxes for selection.

Group	Select
Account manager	<input type="checkbox"/>
Account viewer	<input type="checkbox"/>
Confidential data admin	<input type="checkbox"/>
Deployment admin	<input type="checkbox"/>
Finance admin	<input type="checkbox"/>
Log viewer	<input type="checkbox"/>
Monitoring admin	<input type="checkbox"/>
Monitoring viewer	<input type="checkbox"/>
Security admin	<input type="checkbox"/>

12.3.4.3. A solução deverá ser compatível com o ambiente computacional do DETRAN-DF, conforme especificado no ambiente tecnológico.



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Obs.: Conforme documentação técnica: <https://www.dynatrace.com/support/help/technology-support>

12.3.4.4. A solução deverá ser capaz de coletar, analisar e gerar informações dos serviços digitais do DETRAN-DF.





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Services

## Services

See all services that were active within the selected timeframe and match the filter settings

Update Pin to dashboard

Top web requests Distributed traces Multidimensional analysis

Filter by

162 Services showing current values

Name	Response time median	Slowest 10%	Failure rate	Requests	Actions
Requests to unmonitored hosts	127 ms	629 ms	1.41 %	2.03k /min	...
detran-digital app.js (detran-digital) portal-digital-*	6.43 ms	44.4 ms	0 %	1.34k /min	...
application SpringBoot fuse-service br.gov.df.detran.BoletoFuseServiceApplication fuse-service-*	313 ms	1.03 s	0 %	413 /min	...
Requests to public networks	94.3 ms	205 ms	0 %	384 /min	...
FiscalizacaoController SpringBoot br.gov.df.detran.fiscalizacao.FiscalizacaoApplication fiscalizacao-*	578 ms	1.47 s	0 %	267 /min	...
Netty on 0:0:0:0:0:0:0:8080 SpringBoot br.com.detran.boletoderapi.BoletoDerApiApplication boleto-der-*	231 ms	412 ms	0 %	266 /min	...
VinculoVeiculoController SpringBoot br.com.detran.veiculo.vinculo.VinculoVeiculoApplication vinculo-veiculo-*	8.9 ms	20.4 ms	1.54 %	260 /min	...

12.3.4.5. Para a instalação de agentes coletores, caso a solução utilize tal tecnologia, será permitido que ele seja feito de forma mais automatizada possível, sem a necessidade de instalação de muitos agentes e sem a necessidade de alteração manual de código-fonte ou arquivos de configuração. Será permitido o restart de servidores de aplicação, entendendo que todas as soluções deste tipo necessitam deste restart.



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Search DETRAN: POCDetran...

Deploy Dynatrace > Install OneAgent > Linux

Please copy and store your token in a password manager!  
You see the newly generated token only once upon its creation.

Choose installer type:

1. Set customized options (optional).

> Set Host Groups, Network Zones and tags.

2. Download the installer using this command on the target host.

```
wget -O Dynatrace-OneAgent-Linux-1.257.217.sh  
"https://tgp11329.live.dynatrace.com/api/v1/deployment/installer/agent/  
unix/default/latest?arch=x86&flavor=default" --header="Authorization:  
Api-Token  
dt0c01.X5VAB2VGKMXUJUEXOX2TBMKO.UM5GRPXA3PVGQM3SDPBYG2VLR6M6GOI5S5JUJR4  
4G5WRVA3QMJJYUJERNP7UZ7G"
```

Copy

3. Verify signature:

```
wget https://ca.dynatrace.com/dt-root.cert.pem ; ( echo 'Content-Type:  
multipart/signed; protocol="application/x-pkcs7-signature";  
micalg="sha-256"; boundary="--SIGNED-INSTALLER"; echo ; echo ; echo '-  
--SIGNED-INSTALLER' ; cat Dynatrace-OneAgent-Linux-1.257.217.sh ) |  
openssl cms -verify -CAfile dt-root.cert.pem > /dev/null
```

Copy

4. Run the installer with root rights.

```
/bin/sh Dynatrace-OneAgent-Linux-1.257.217.sh --set-infra-only=false --  
set-app-log-content-access=true
```

Copy

5. Restart the processes that you want to monitor.

12.3.4.6. A solução deve possuir funcionalidade e ferramental para possibilitar a análise de logs de dados. Esta funcionalidade deve permitir a criação de regras de padrão para pesquisa, bem como ações a serem executadas (como por exemplo gerar um alerta) no caso de encontrar uma quantidade determinada de ocorrências no log analisado.



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**Logs**

#### Log Viewer

Create advanced queries on stored log data by using our query language. [View Documentation](#)

Advanced mode

282 results found

Statistics are estimated on 1/4 of your data

**Favorites**

**Available attributes**

- Main
  - loglevel
    - error 282
  - log.source
    - /var/log/messages 282
  - dt.process.name
    - linux.system 282
  - host.name
    - territory.detran.df 247
    - siena.detran.df 35
  - Dynatrace
    - status

#### Pesquisa de log com regra

timestamp	status	content
2023-01-26 09:14:53	ERROR	Jan 26 09:14:53 territory dockerd-current: time="2023-01-26T09:14:53.769597934-03:00" level=error msg="Error running exec in container: rpc error: code = 2 desc = containerd: container did not start before the specified timeout"
2023-01-26 09:14:15	ERROR	Jan 26 09:14:15 territory atomic-openshift-node: E0126 09:14:15.058818 2444 pod_workers.go:186] Error syncing pod a9c3a7ce-9d72-11ed-9394-005056bb3e77 ("cnh-social-inscricao-front-64-vkWSC_portal-prod(a9c3a7ce-9d72-11ed-9394-005056bb3e77)"), skipping: timeout expired waiting for volumes to attach or mount for pod "portal-prod"/"cnh-social-inscricao-front-64-vkWSC". list of unmounted volumes=[default-token-xbvg7]. list of unatta...
2023-01-26 09:12:32	ERROR	Jan 26 09:12:32 territory dockerd-current: time="2023-01-26T09:12:32.832360172-03:00" level=error msg="Error running exec in container: rpc error: code = 2 desc = containerd: container did not start before the specified timeout"
2023-01-26 09:10:32	ERROR	Jan 26 09:10:32 territory dockerd-current: time="2023-01-26T09:10:32.802165493-03:00" level=error msg="Error running exec in container: rpc error: code = 2 desc = containerd: container did not start before the specified timeout"
2023-01-26 09:08:28	ERROR	Jan 26 09:08:28 territory dockerd-current: time="2023-01-26T09:08:28.331237338-03:00" level=error msg="Error running exec in container: rpc error: code = 2 desc = containerd: container did not start before the specified timeout"

#### Logs com filtro



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Problems > Problem P-230158

### Linux System: Mensagem

> Custom alert P-230158 detected at 05:28 (open for 3 hours 49 minutes).

Affected applications	Affected services	Affected infrastructure	Affected SLOs
-	-	1	-

#### 1 impacted infrastructure component

**Linux System**  
Process

**Mensagem**  
Mensagem de teste

[Analyze logs](#)

**Alerta de log - status="error"**

#### Comments

Comment on this problem

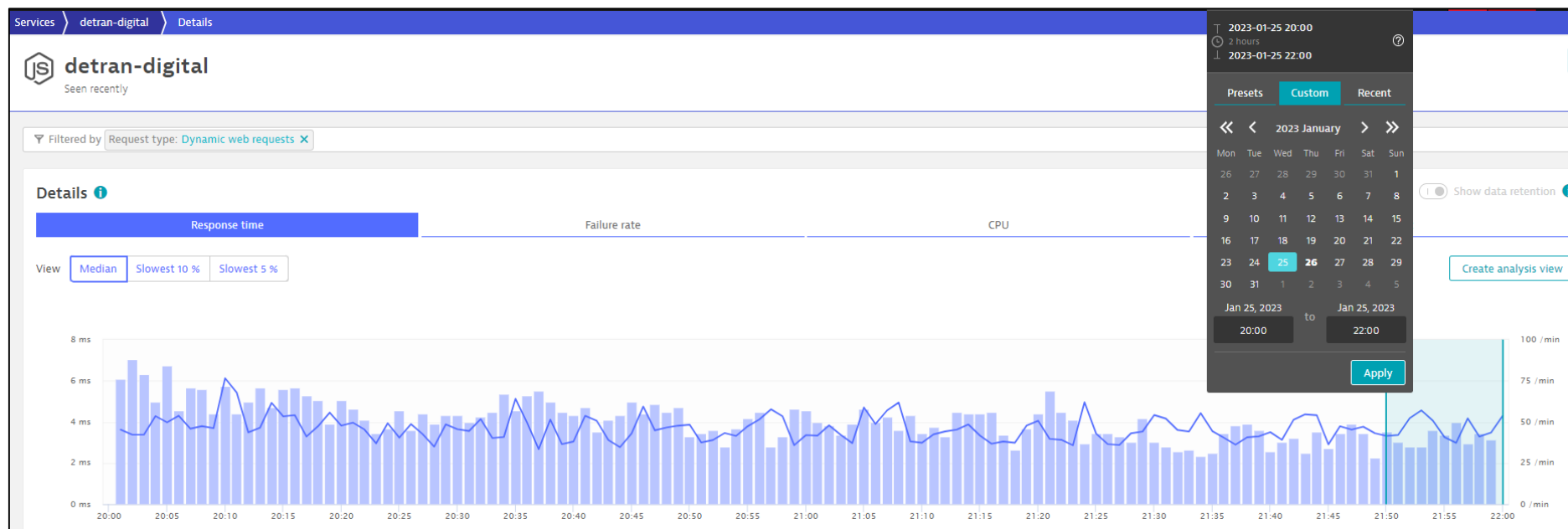
12.3.4.7. A solução deverá disponibilizar ferramenta de análise das informações considerando a temporalidade. Dessa forma, deverá permitir as análises e visualização das informações considerando:



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a) Período de tempo (data/hora/minuto inicial e data/hora/minuto final);



b) Comparação entre dois períodos de tempo (antes e depois);



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### Comparison of requests to detran-digital

< Jan 25, 21:50 - 22:00 > compare with two hours before

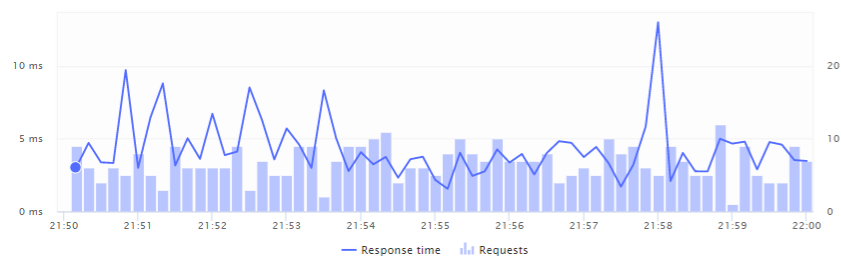
Filtered by Request type: Dynamic web requests

Show data retention

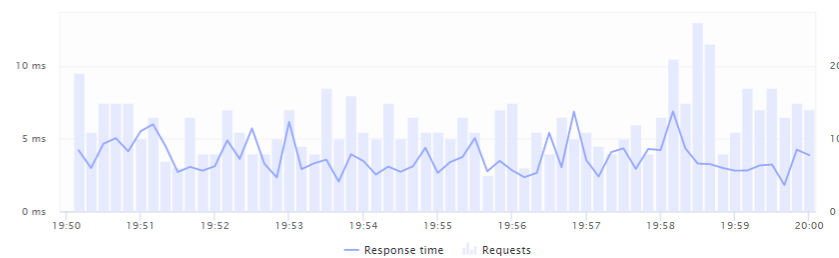
#### Response time

Median Slowest 10 % Slowest 5 %

yesterday, 21:50 - 22:00



yesterday, 19:50 - 20:00



Compare response time hotspots

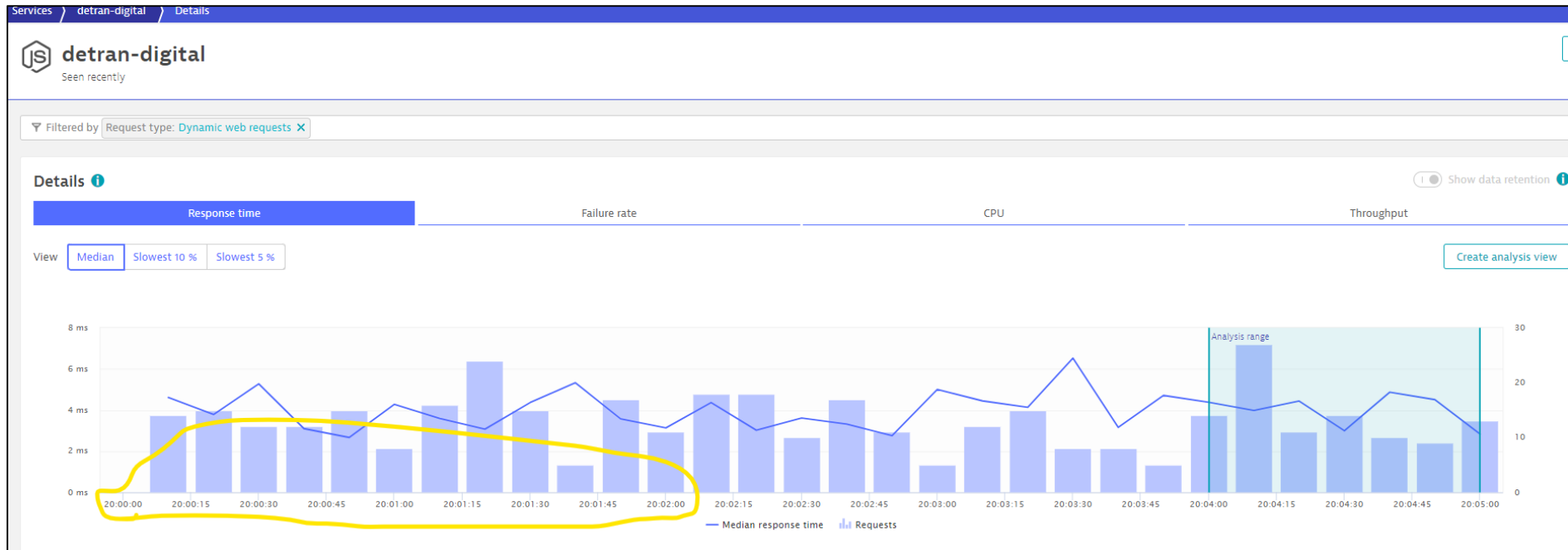
Show details

c) Granularidade de informações de 2 (dois) minutos ou mais.



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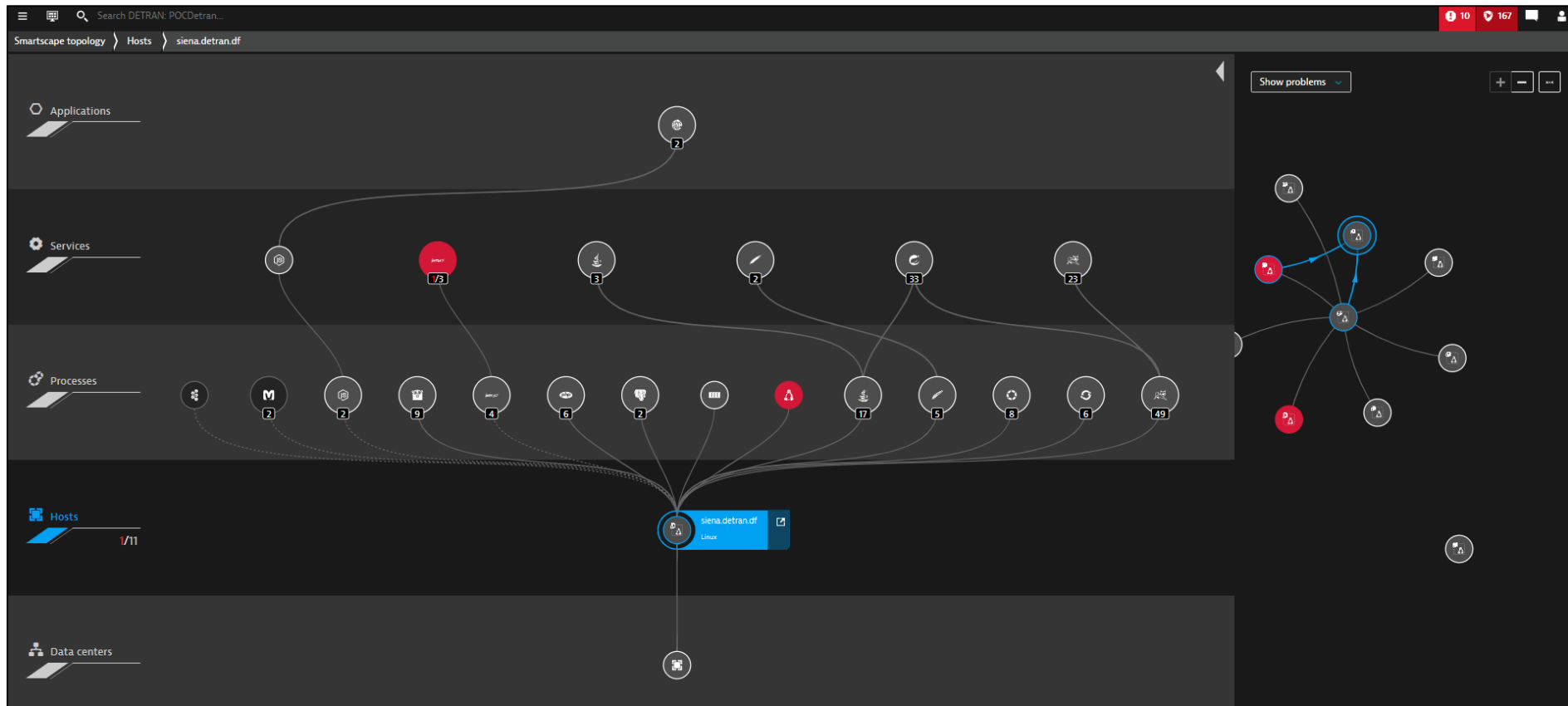


12.3.4.8. A solução deverá realizar, de forma automática, o mapeamento dos componentes e seus relacionamentos que sustentam o serviço digital. Esse mapeamento deve considerar, ao menos, os serviços, processos, infraestrutura (servidores) e seus relacionamentos que sustentam cada um dos serviços digitais do DETRAN-DF.



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Obs.: Foram demonstrados pontualmente os itens de relacionamento conforme o mapeamento dos componentes. Como exemplo, os Hosts.

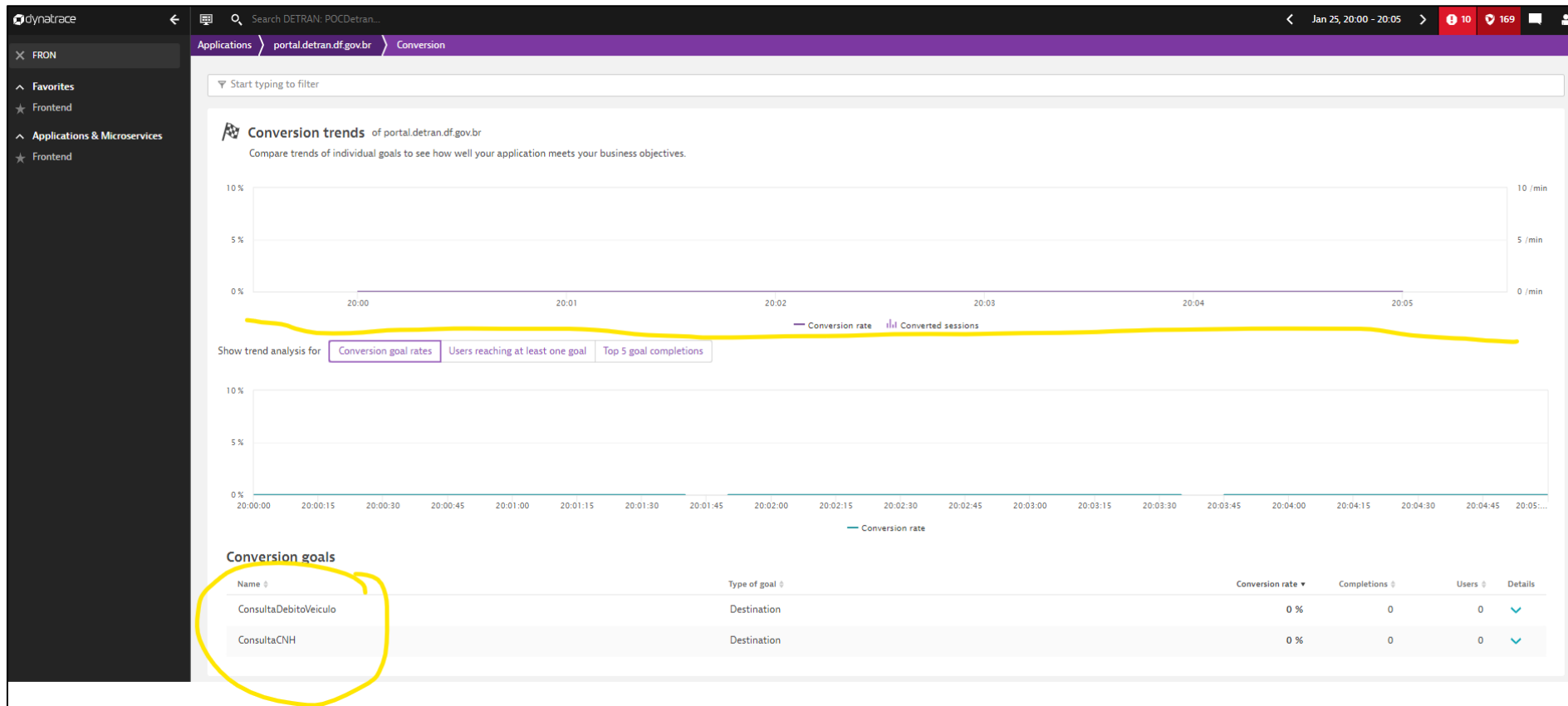
12.3.4.9. A solução deverá permitir que seja definido critérios de sucesso para um serviço digital de forma que, a partir dessa definição a solução possa acompanhar as plataformas de serviço do DETRAN-DF registrando a taxa de sucesso dos usuários dos serviços.





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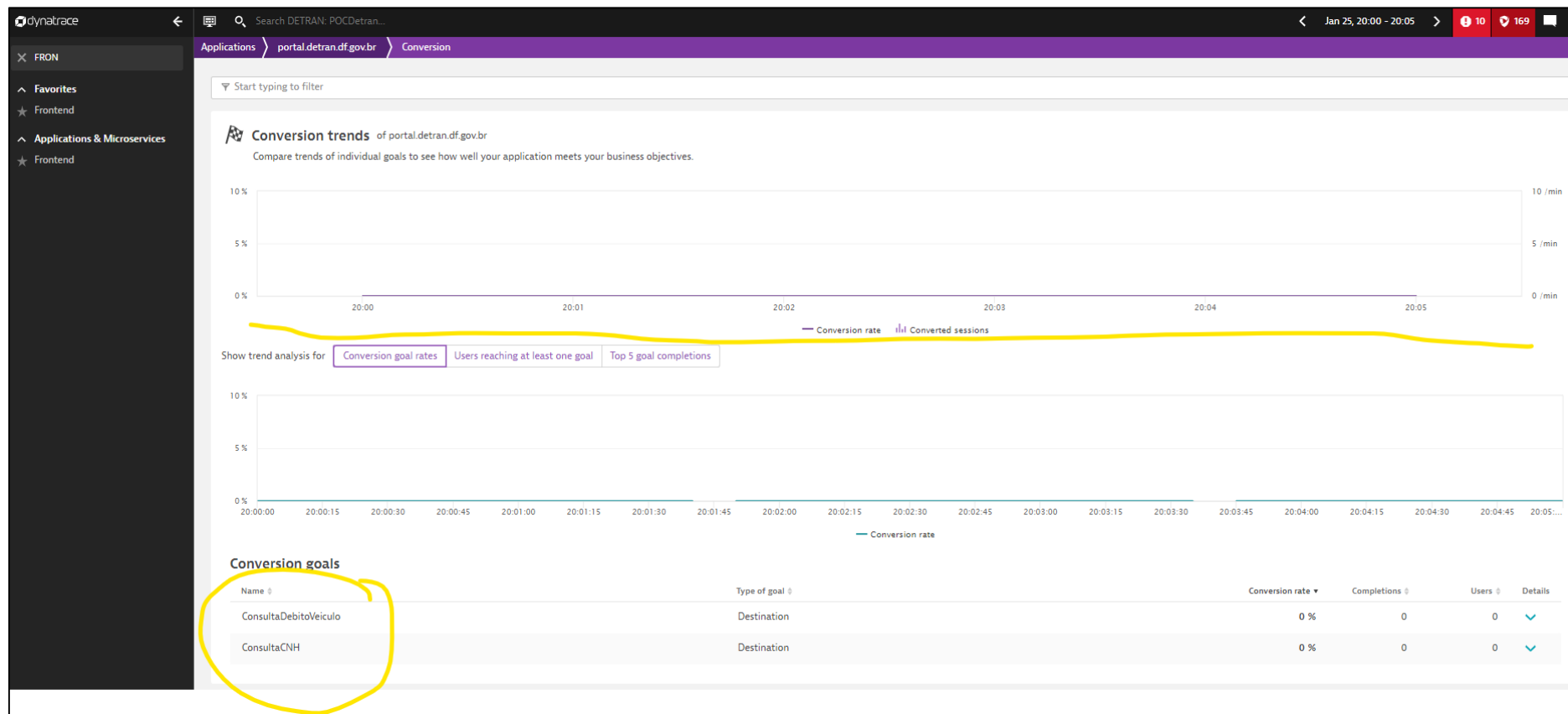


12.3.4.10. A solução deverá permitir a configuração de mais de um critério de sucesso para um mesmo serviço digital.



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X



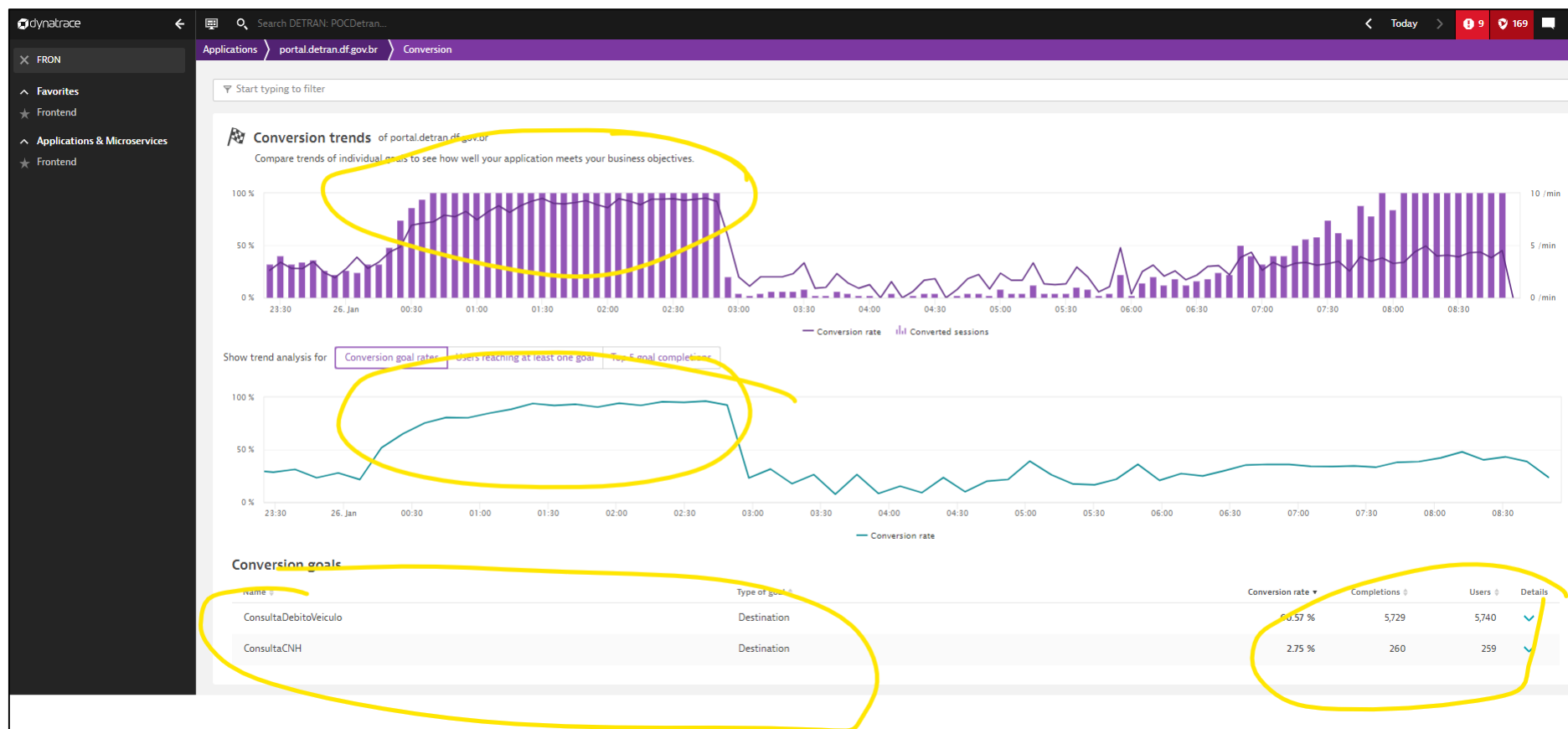
Obs.: A plataforma foi verificada de forma automática definida para o teste de bancada trata-se do Portal.detrان.df.gov.br

12.3.4.11. A solução deverá possibilitar que seja feita a análise das taxas de sucesso ao longo do tempo, permitindo que seja analisado a melhora ou não dos objetivos dos serviços digitais.



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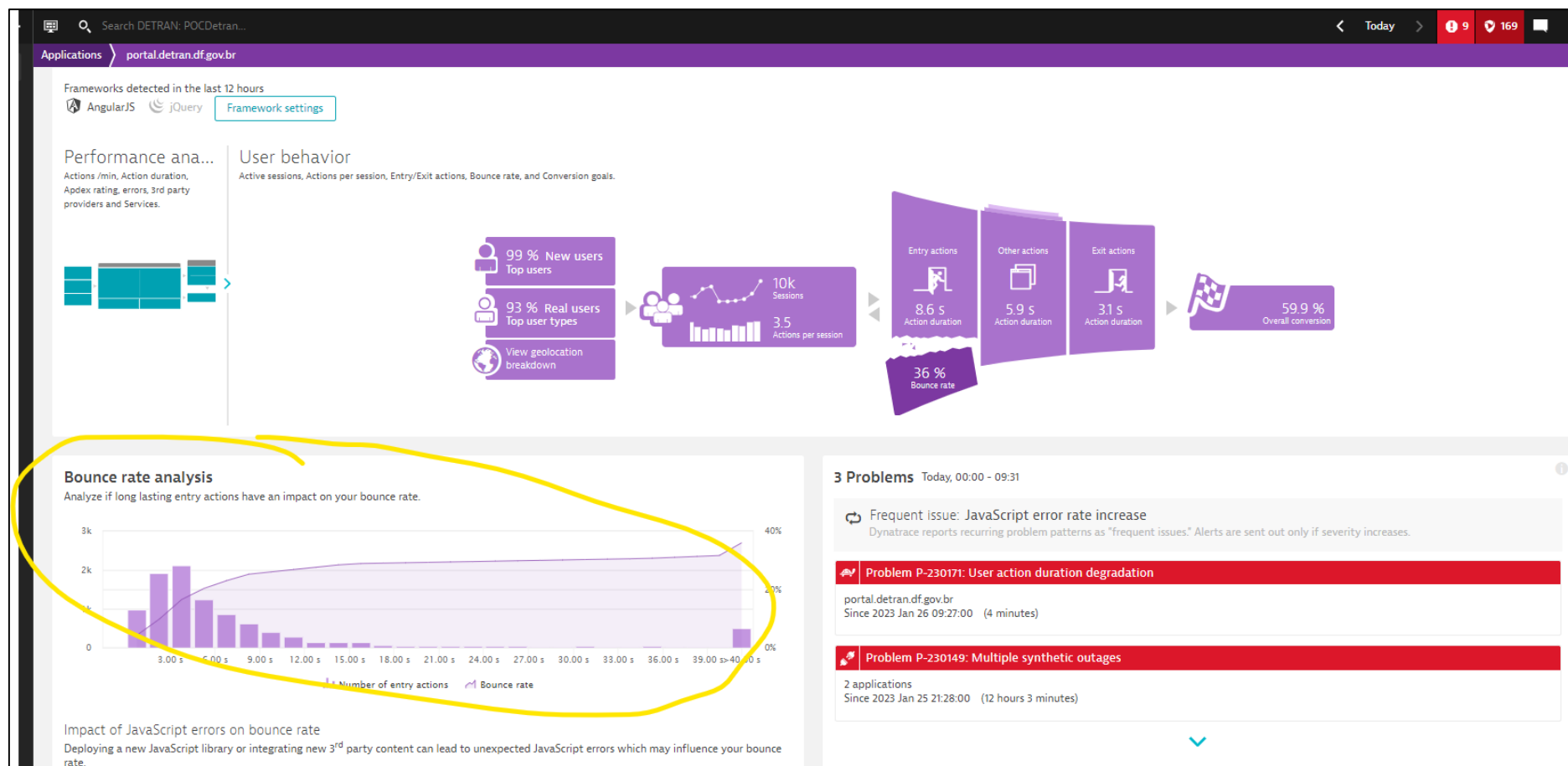


12.3.4.12. A solução deverá coletar e medir a taxa de abandono dos serviços digitais. Entende-se por taxa de abandono de serviços o percentual de acessos de usuários que acessaram o serviço digital e saíram sem realizar uma transação negocial propriamente dita.



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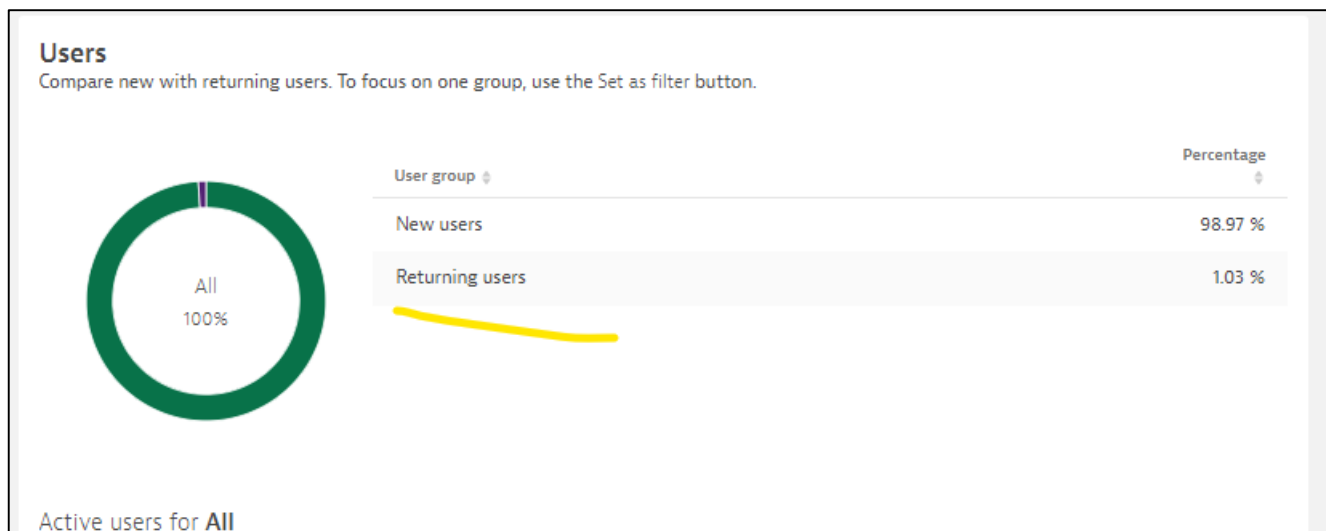
12.3.4.13. A solução deverá coletar e identificar o perfil dos usuários dos serviços digitais do DETRAN-DF. Os seguintes parâmetros devem ser considerados para identificação do perfil dos usuários dos serviços digitais:

a) Usuários regressos;



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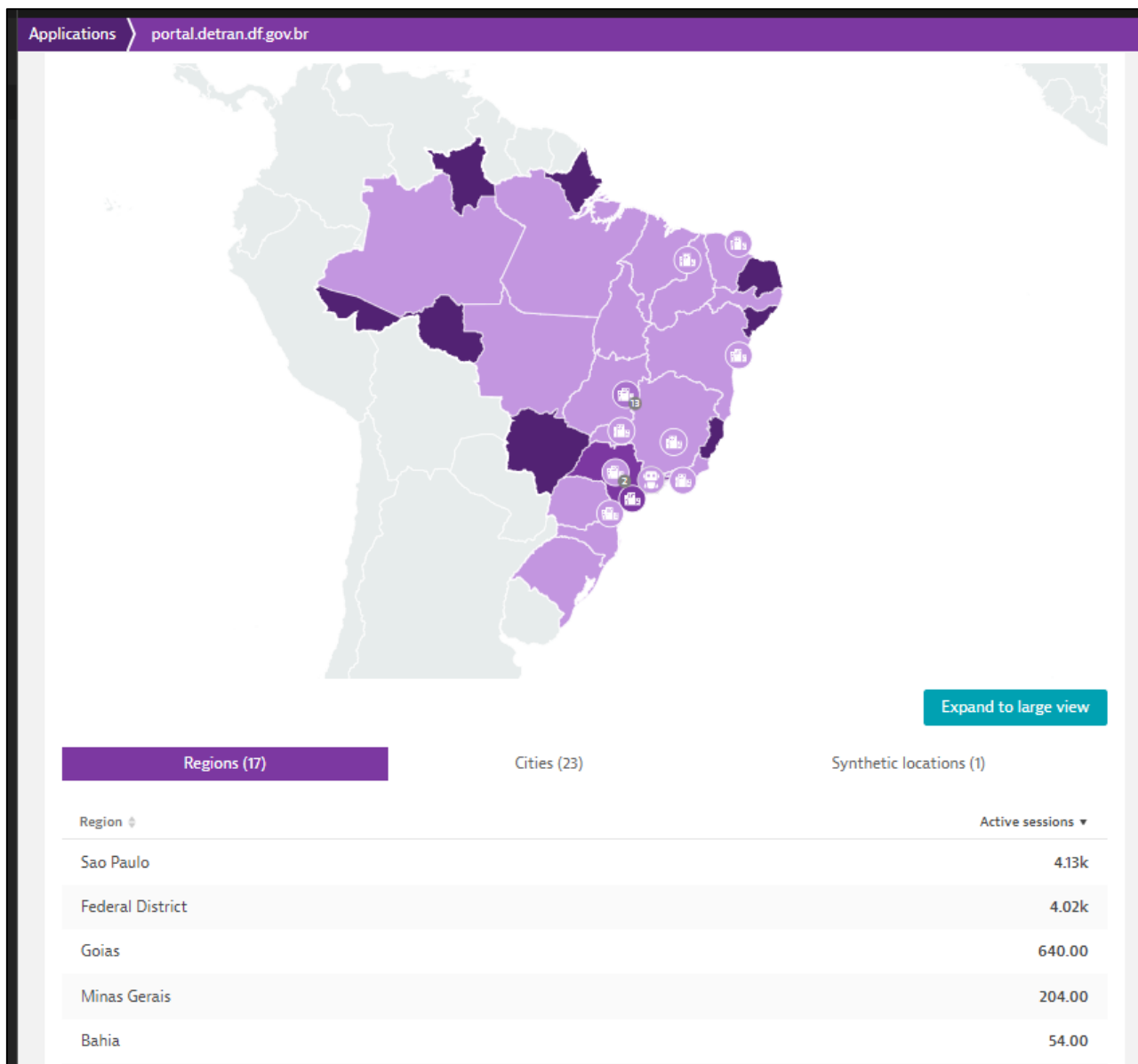


b) Localização física do usuário (UF);



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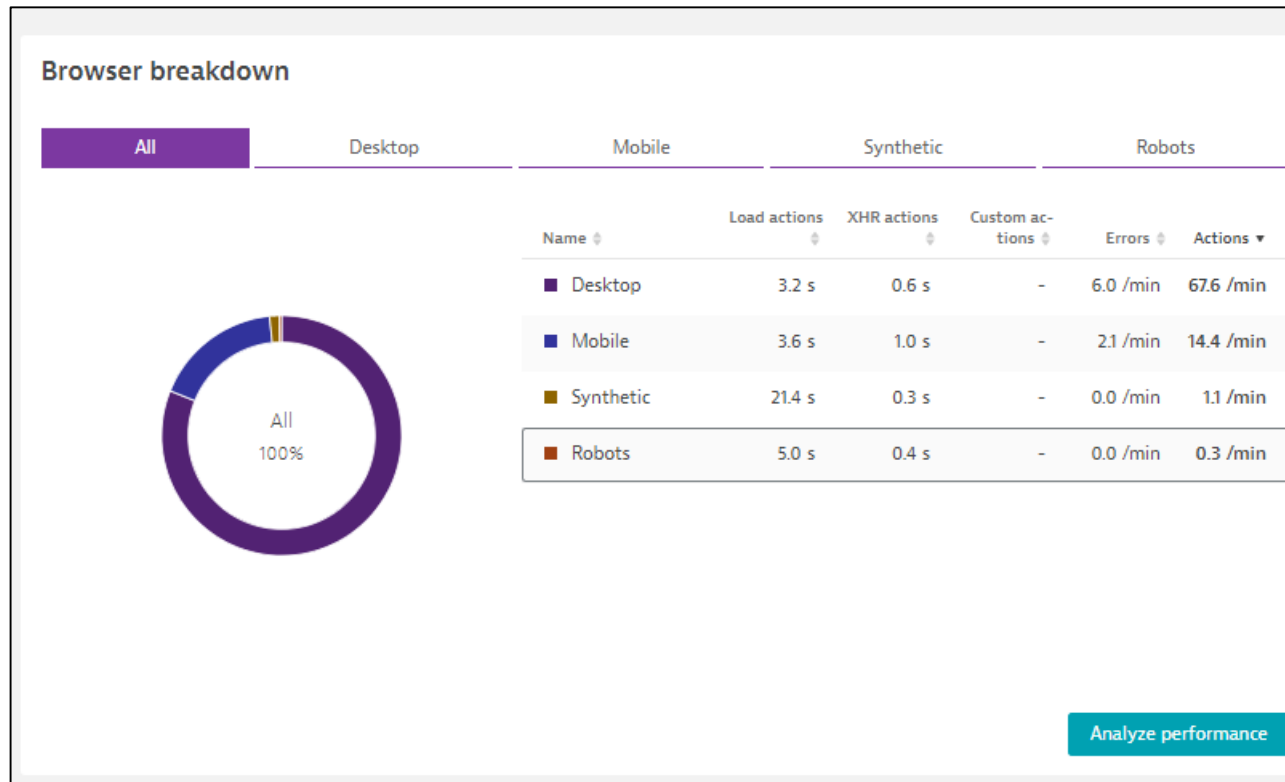




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c) Tipo de dispositivo para acesso;

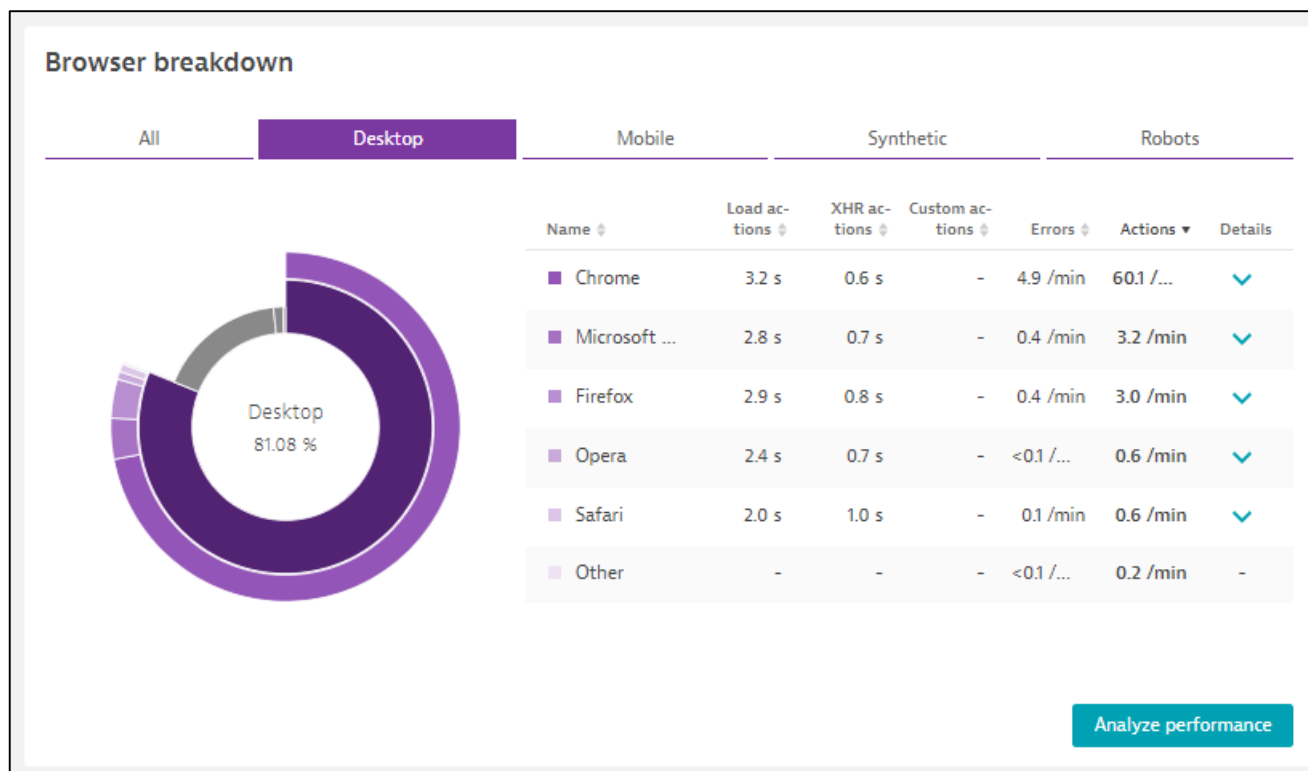


d) Tipo de navegador utilizado para acesso;



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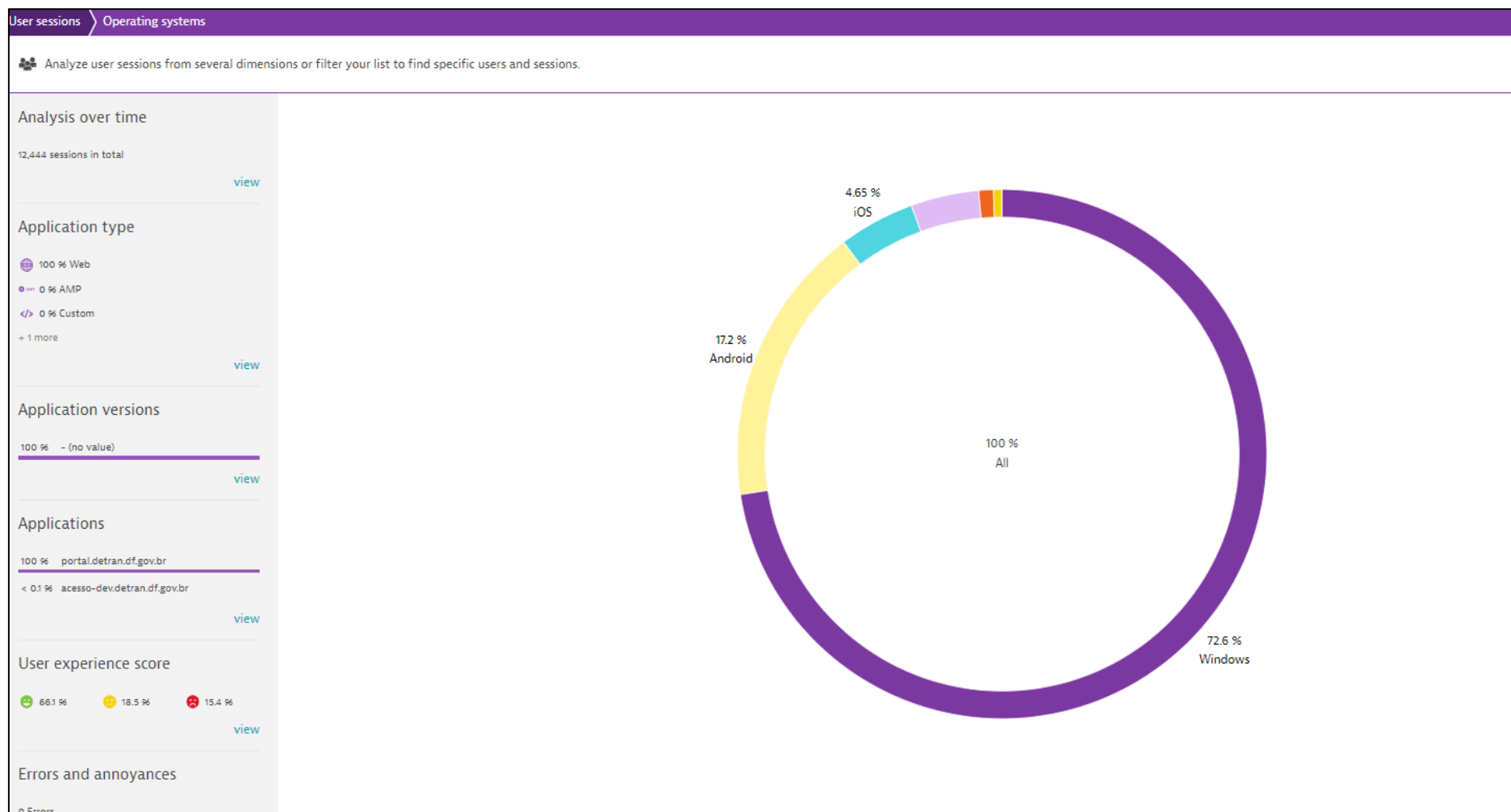
e) Tipo de sistema operacional utilizado;





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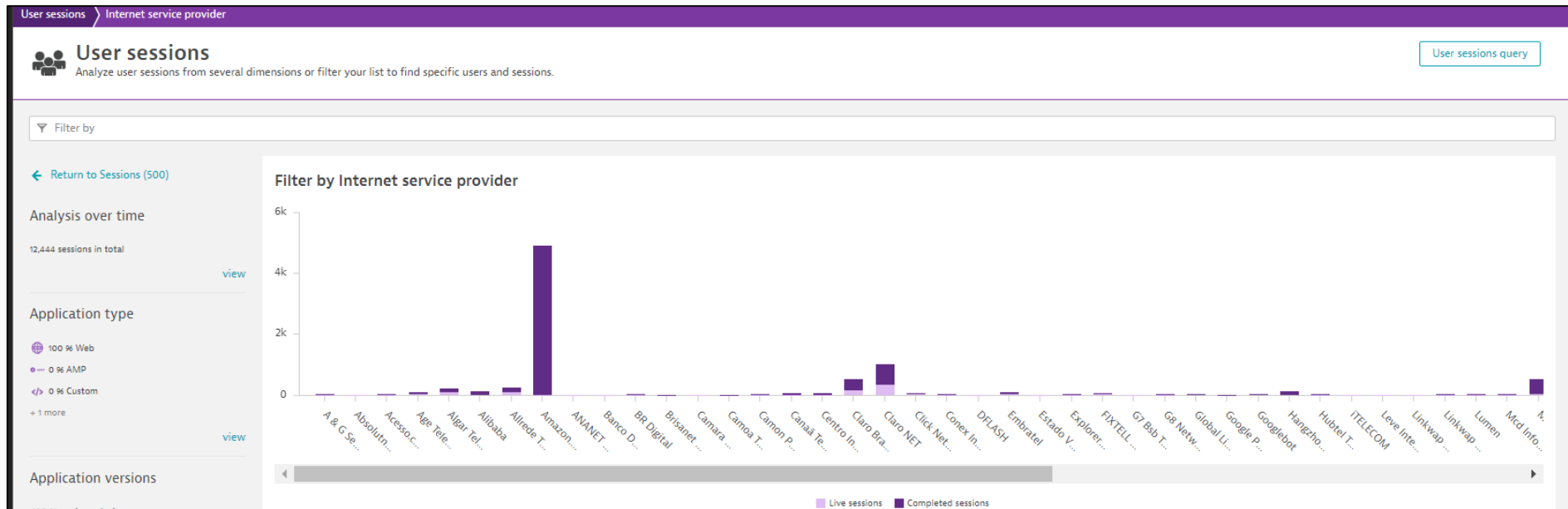


f) Operadoras utilizadas;



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g) Número de ações do usuário durante o uso;

**User sessions**

Filter by Live: No

Clear all

Analysis over time  
9,759 sessions in total

Application type  
100 % Web

First 500 sessions  
Showing 1 - 50 of first 500 sessions

User session	Replay	User	User experience score	Duration	User action count	Total conversions	Errors and annoyances
Jan 26, 2023 - 07:56		Anonymous (1674730605558329NARA7F2RQ4L10G5QQ1U0LM2O7UFRO)	Tolerable	29 min 39 s	155	0	4



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h) Tempo médio que os usuários permaneceram acessando o serviço digital;

User sessions

9,759 sessions in total

Application type: 100 % Web

First 500 sessions

Showing 1 - 50 of first 500 sessions

User session	Replay	User	User experience score	Duration	User action count	Total conversions	Errors and annoyances
Jan 26, 2023 - 07:56		Anonymous (1674730605558329NARA7F2RQ4L10GSQQ1U0LM2O7UFRO)	Tolerable	29 min 39 s	155	0	4

i) Quantidade média de ações dos usuários durante o uso;

User sessions

9,759 sessions in total

Application type: 100 % Web

First 500 sessions

Showing 1 - 50 of first 500 sessions

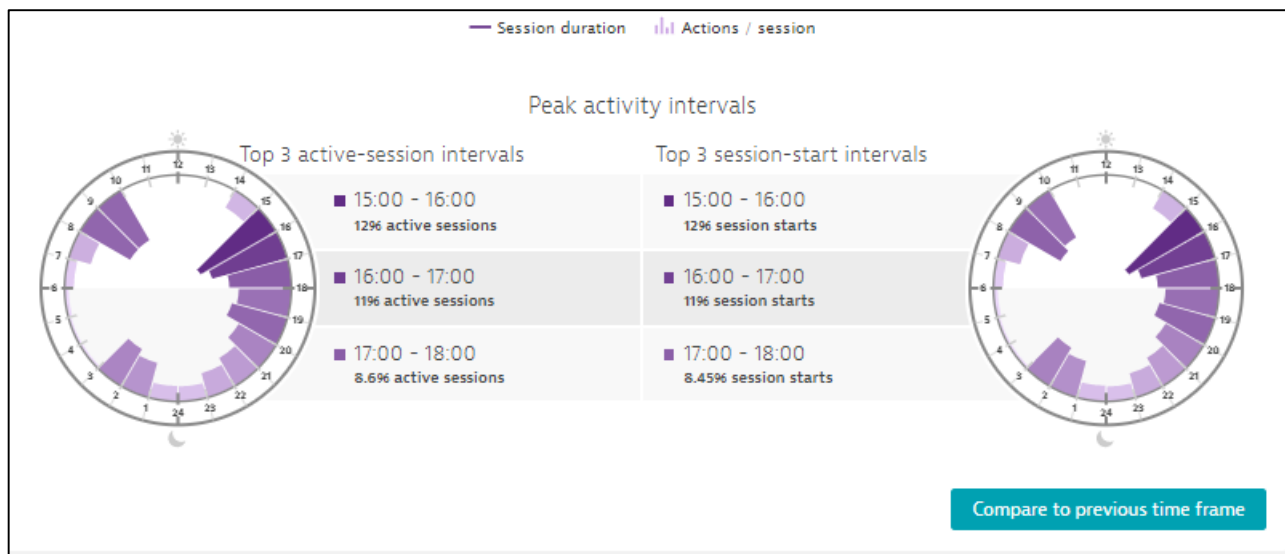
User session	Replay	User	User experience score	Duration	User action count	Total conversions	Errors and annoyances
Jan 26, 2023 - 07:56		Anonymous (1674730605558329NARA7F2RQ4L10GSQQ1U0LM2O7UFRO)	Tolerable	29 min 39 s	155	0	4

j) A sazonalidade diária no uso dos serviços digitais.



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12.3.4.14. A solução deverá, para os serviços digitais do DETRAN-DF que requerem autenticação, identificar o usuário que o está acessando.

User sessions

Analyze user sessions from several dimensions or filter your list to find specific users and sessions.

Filter by

Analysis over time  
9,430 sessions in total

Application type  
100% Web

### First 500 sessions

Showing 1 - 50 of first 500 sessions

User session	Replay	User	User experience score	Duration	User action count	Total conversions	Errors and annoyances
Jan 25, 2023 - 21:53		zilma	Satisfying	1 min 57 s	4	0	0

12.3.4.15. A solução deverá ou ao menos gravar, para até 50% (cinquenta por cento) dos usuários, o acesso aos serviços digitais, possibilitando a sua reprodução. Para isso, mantendo as questões de sigilo às informações, deverá permitir que as informações digitadas pelos usuários possam ser mascaradas





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Timeline    Session Replay

00:15/08:10 ⓘ

Navigate <

● Load action    ● User action or event    🖼 Image placeholders

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Governo do Distrito Federal

Departamento de Trânsito do Distrito Federal (DETRAN/DF)

Applications > portal.detrans.df.gov.br > Settings > General settings > Enablement and cost control

### Application settings

portal.detrans.df.gov.br

- General settings**  
Configure your application setup
- General setup  
See your application setup
- Enablement and cost control**  
Set up monitoring
- Application name  
Update your application name
- Data privacy  
Protect your users' data privacy
- Capturing  
Control what is captured
- Behavior analytics  
Configure behavior relevant settings
- Metrics  
Manage and create metrics
- Errors  
Configure how errors are captured
- Anomaly detection  
Fine-tune the sensitivity and thresholds
- Injection  
Control how RUM is injected

### Enablement and cost control

Turn on Real User Monitoring and Session Replay. Configure cost and traffic control settings.

**Info** These settings are overriding Environment settings [Remove override](#)

#### Real User Monitoring

Capture and analyze all user actions within your application. Enable [Real User Monitoring \(RUM\)](#) to monitor and improve your application's performance, identify errors, and gain insight into your user's behavior and experience.

Enable Real User Monitoring

#### Cost and traffic control

%

Percentage of user sessions captured and analyzed

#### Session Replay

[Session Replay](#) captures all user interactions within your application and replays them in a movie-like experience while providing [best-in-class security and data protection](#).

Enable Session Replay

Before enabling, Dynatrace checks your system against the prerequisites for [Session Replay](#).

#### Cost and traffic control

%

Percentage of user sessions recorded with [Session Replay](#). For example, if you have 50% for RUM and 50% for Session Replay, it results in 25% of sessions recorded with Session Replay.



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12.3.4.16. A solução deverá classificar automaticamente a qualidade dos acessos dos usuários aos serviços digitais do DETRAN-DF. Deverá fazer isso para cada acesso de usuário. A qualidade deverá ser classificada considerando ao menos 03 (três) níveis (ruim, bom e excelente) ou (normal, lenta e muito lenta).

The screenshot displays the 'User sessions' dashboard. A filter menu is open, showing options for 'User experience score' with checkboxes for 'Frustrating', 'Satisfying', and 'Tolerable'. The 'Frustrating' option is selected. Below the filter, a table lists session data. The 'User experience score' column shows 'Frustrating' for two sessions, which are circled in yellow. The table columns include 'Replay', 'User', 'User experience score', 'Duration', 'User action count', 'Total conversions', and 'Errors and annoyances'.

Replay	User	User experience score	Duration	User action count	Total conversions	Errors and annoyances
-	Anonymous (1674673404638TFJCJEIKRC0V2TU0QTLABTMFAPTSRJAL)	Frustrating	9 min 44 s	29	0	18
-	Anonymous (16746726828931HV99V5S87CKFG5MSEDN8AFG946ETPSL)	Frustrating	21 min 54 s	10	0	8

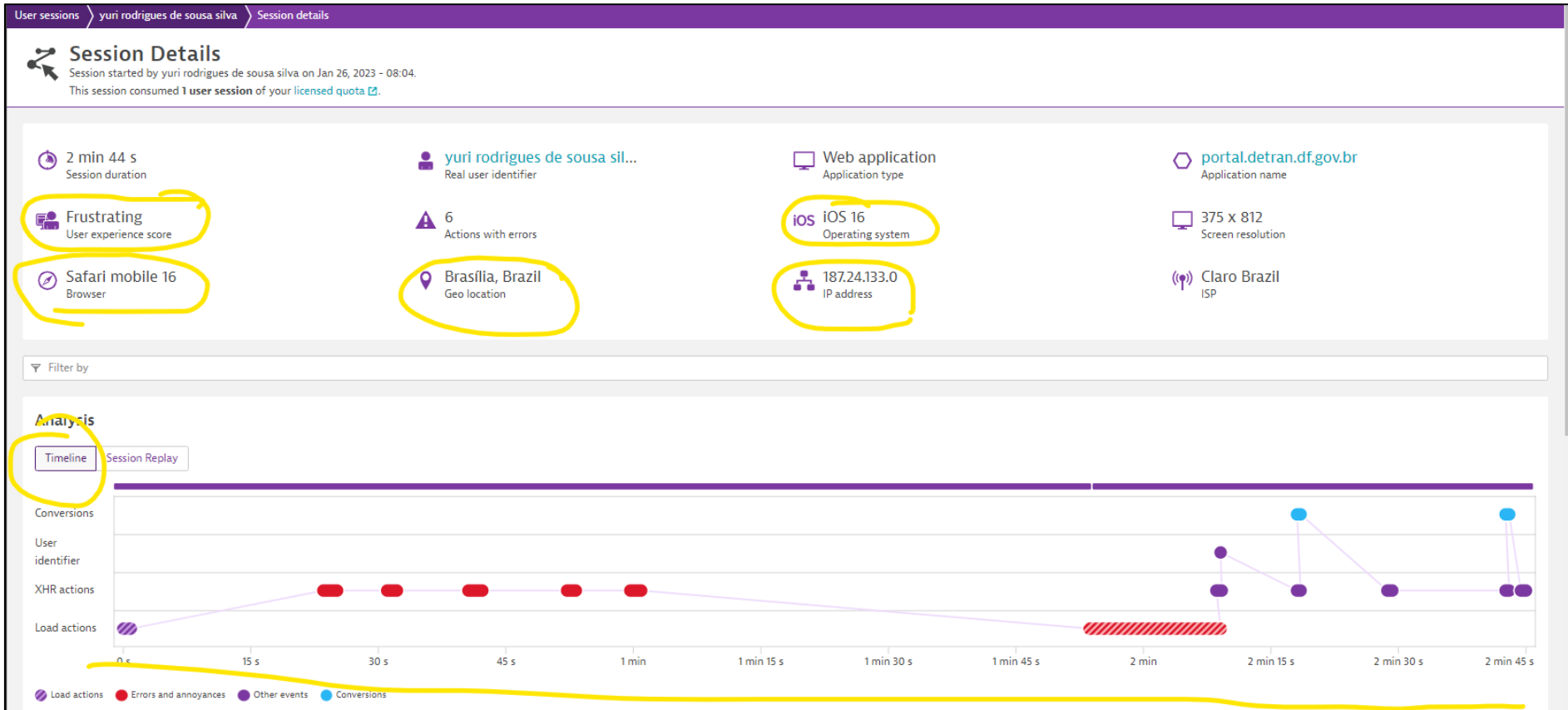
12.3.4.17. Para cada acesso a um serviço digital, a solução deverá realizar uma análise detalhada do mesmo, identificando a região de origem, a qualidade do acesso, o tipo de navegador, a versão do sistema operacional, o IP de origem e o comportamento temporal das ações e funcionalidades acessadas no serviço digital.





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## Governo do Distrito Federal

### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

User sessions > yuri rodrigues de sousa silva > Session details

Session started by yuri rodrigues de sousa silva on Jan 26, 2023 - 08:04.  
This session consumed 1 user session of your licensed quota.

#### Events and actions

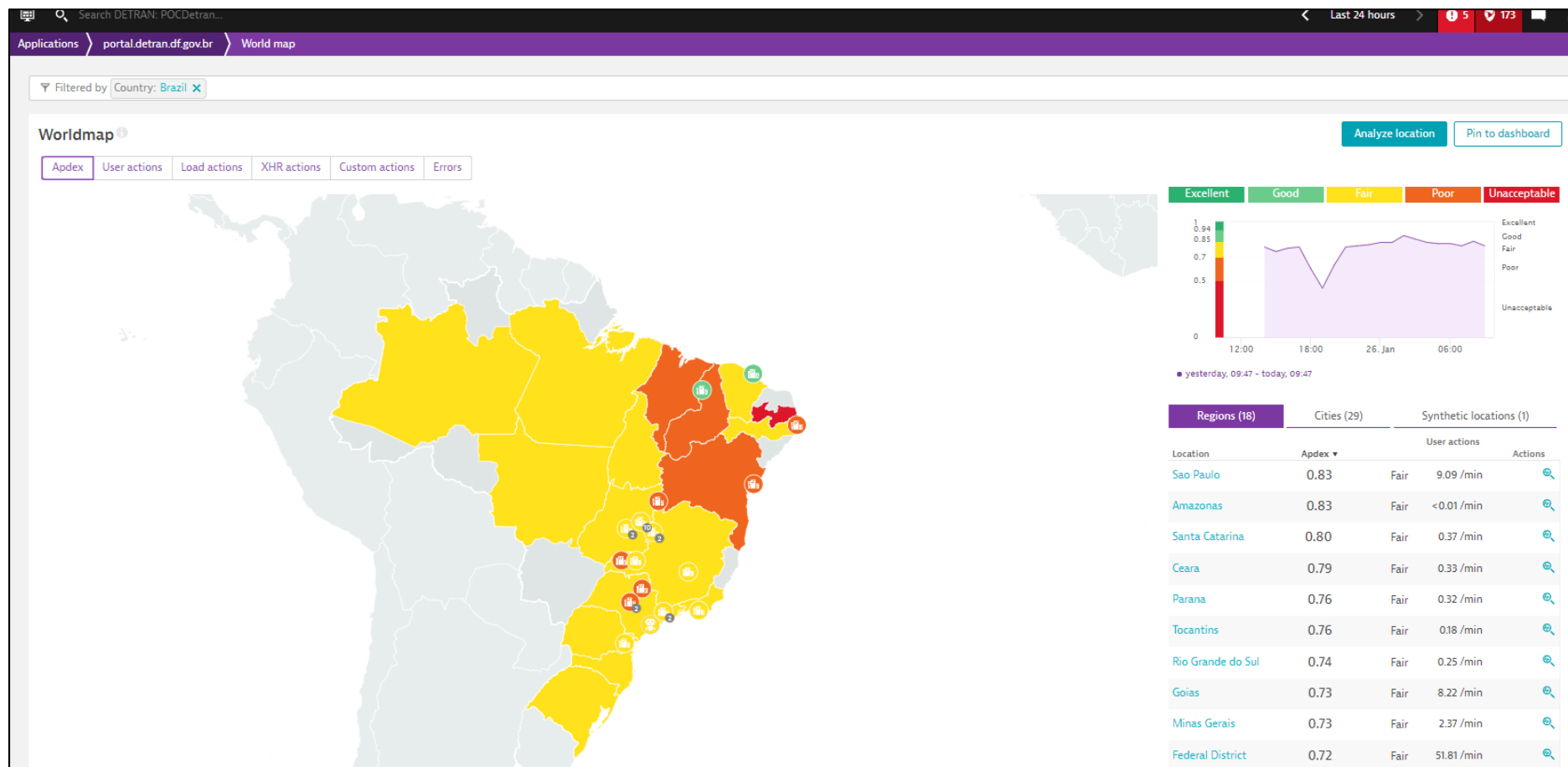
Time	Replay	Type	Events and Actions	Duration	Conversion	Errors and annoyances	Apdex rating	Details
08:04:24		Load	loading of page /	880 ms		-	Satisfying	
08:04:24		Page change	/	-		-		
08:04:48		Xhr	click on detran digital	1.61 s		2	Frustrating	
08:04:55		Xhr	click on detran digital	1.14 s		2	Frustrating	
08:05:05		Xhr	click on detran digital	1.63 s		2	Frustrating	
08:05:16		Xhr	click on detran digital	1.02 s		2	Frustrating	
08:05:24		Xhr	click on detran digital	1.28 s		2	Frustrating	
08:06:18		Load	loading of page /	15.4 s		2	Frustrating	
08:06:18		Page change	/	-		-		
08:06:33		Xhr	click on detran digital	628 ms		-	Satisfying	
08:06:33		User Tag From Meta Data	yuri rodrigues de sousa silva	-		-		
08:06:42		Xhr	click on detran digital	417 ms		-	Satisfying	
08:06:53		Xhr	click on detran digital	580 ms		-	Satisfying	
08:07:07		Xhr	touch on detran digital	422 ms		-	Satisfying	
08:07:08		Xhr	touch on detran digital	502 ms		-	Satisfying	

12.3.4.18. A solução deverá avaliar o nível de qualidade dos serviços digitais, possibilitando a análise temporal dessa qualidade. Além disso, deverá possibilitar a avaliação desse nível de qualidade considerando as regiões geográficas.



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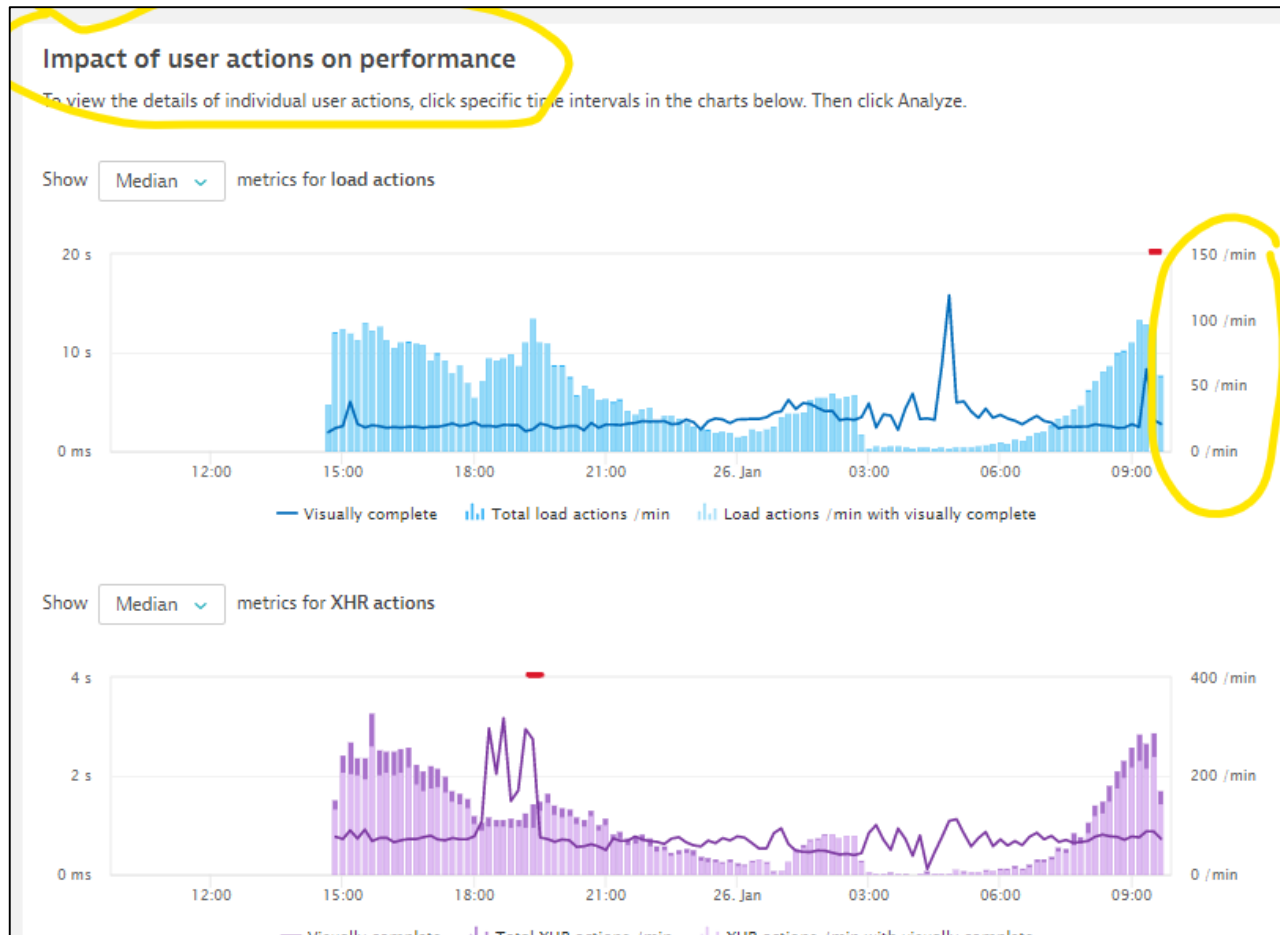
12.3.4.19. Buscando identificar o uso que os usuários fazem dos serviços digitais do DETRAN-DF, a solução deverá prover as seguintes informações a respeito dos serviços digitais, inclusive durante o tempo:

a) Volume de atividades/ações;



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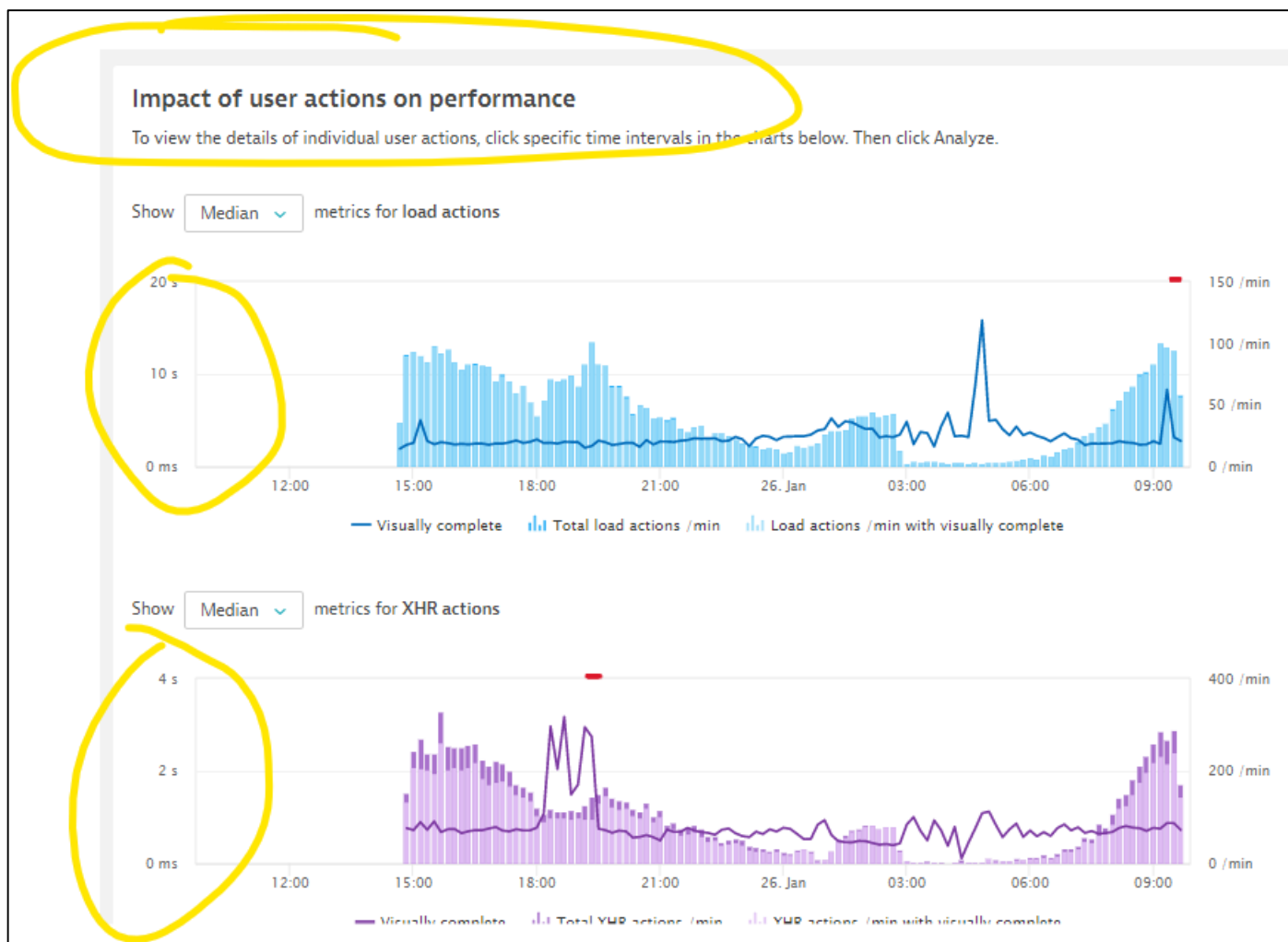


b) Tempo de atendimento (deverá permitir analisar a média e as transações mais lentas);



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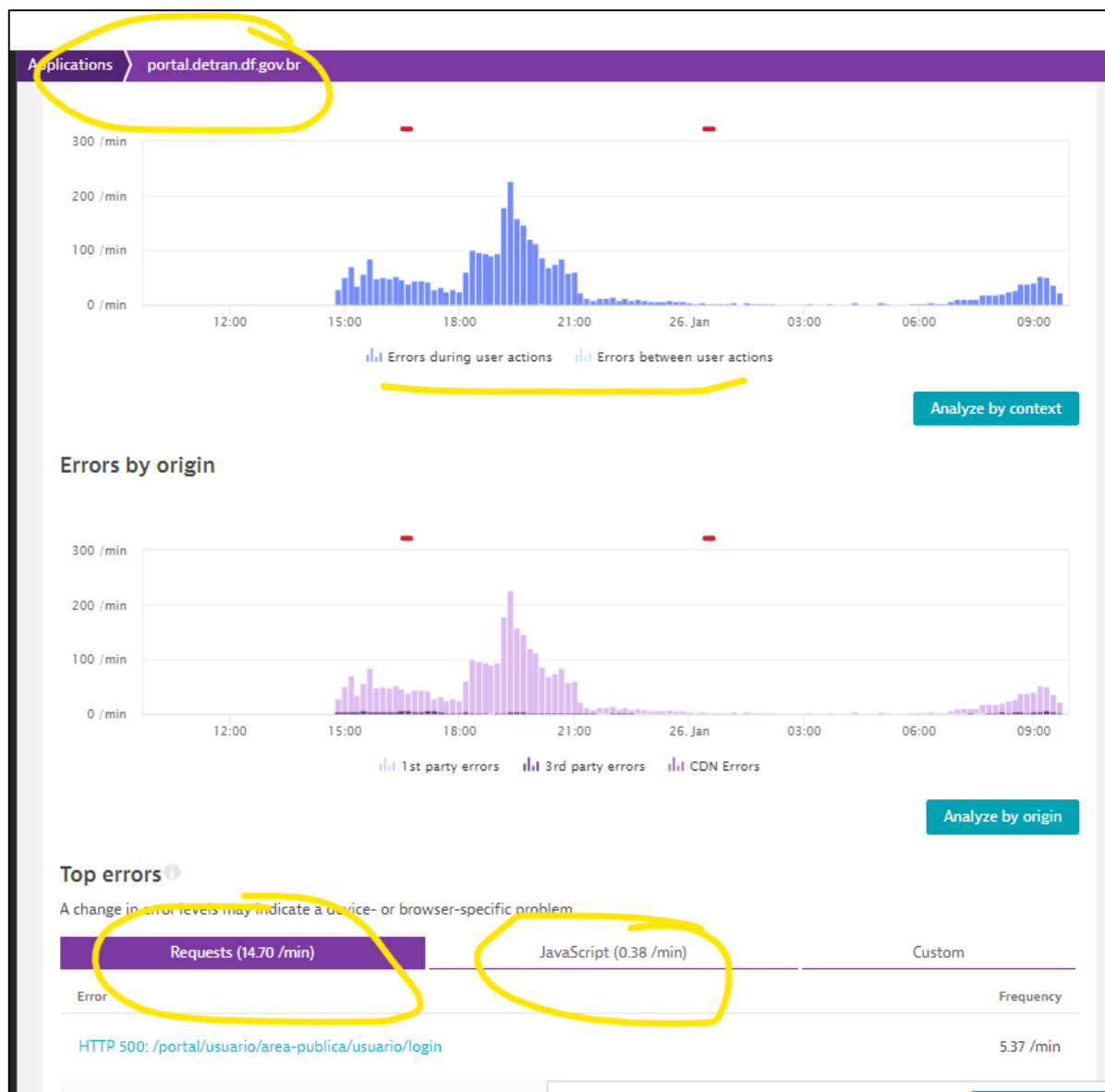


c) Volume de falhas dos serviços (falhas http e JavaScript);



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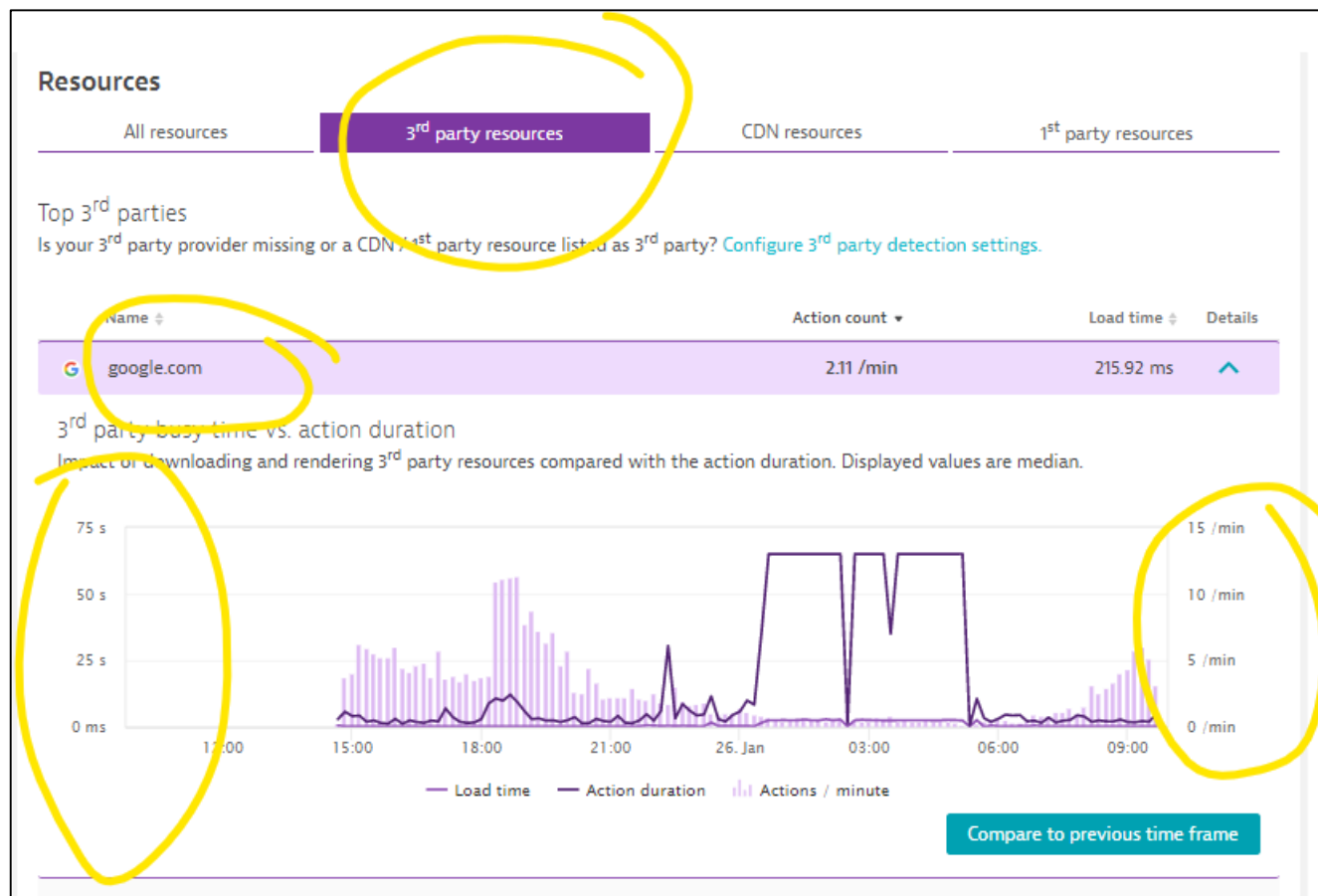




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d) Volume de uso de recursos externos ao serviço digital;

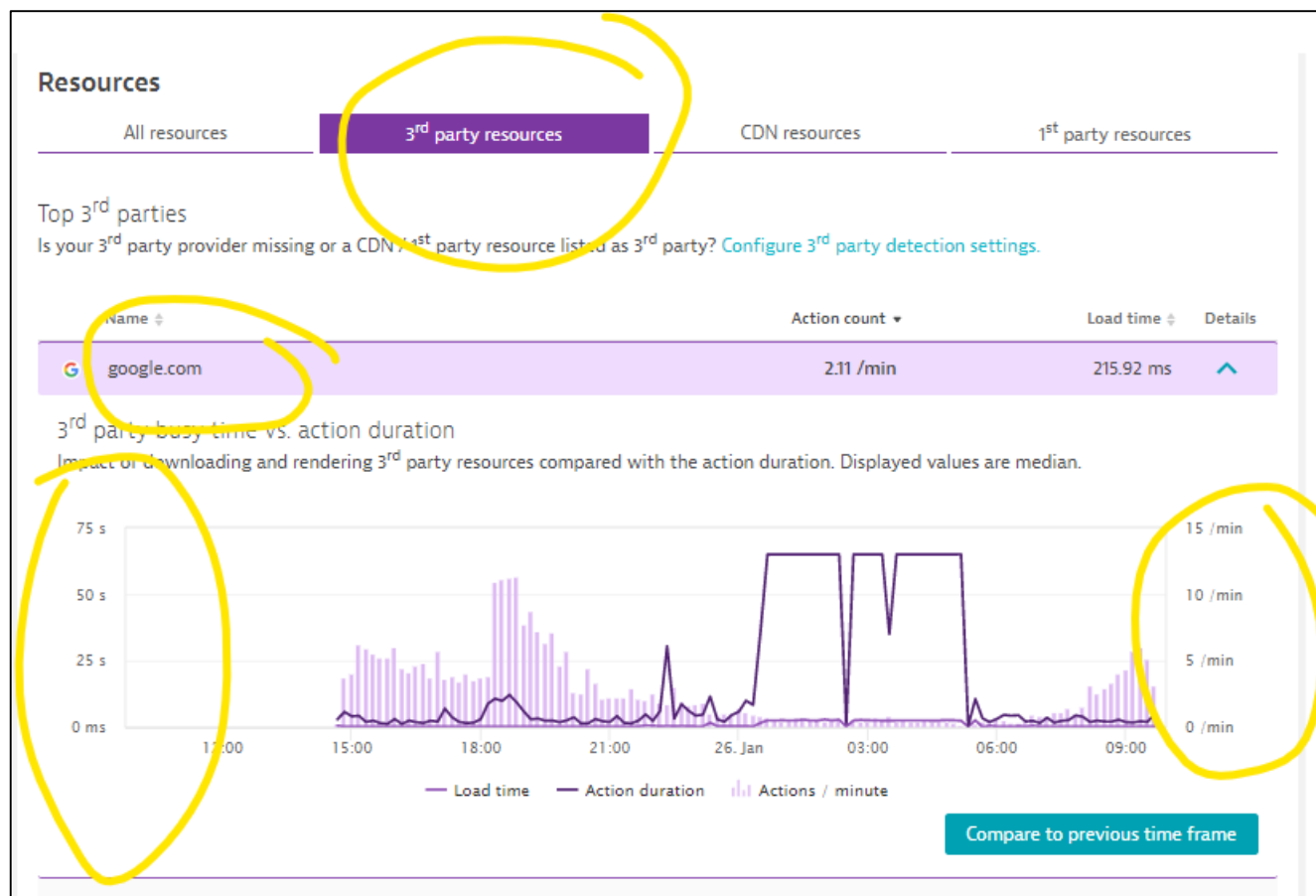


e) Tempo médio de resposta dos recursos externos ao serviço digital.



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12.3.4.20. A solução deverá identificar, de forma automática para um serviço digital em específico, quais serviços estão relacionados a ele. Além de identificar, deverá identificar o tempo médio de execução, o volume de falhas e requisições.





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Services > BoletoController

## BoletoController

Last call 35 seconds ago

Smartscape view

Properties and tags

0 Applications  
2 Services

1/min Throughput

1 Apache To...

0 Services  
1 Database

### Used database

Name	State	Actions	Proxy chains
GETRANPRD_SRV	Seen recently	...	No proxy

### Requests

Response time: 802 ms

Failure rate: 0 %

CPU: 614 ms/req

Throughput: 1 /min

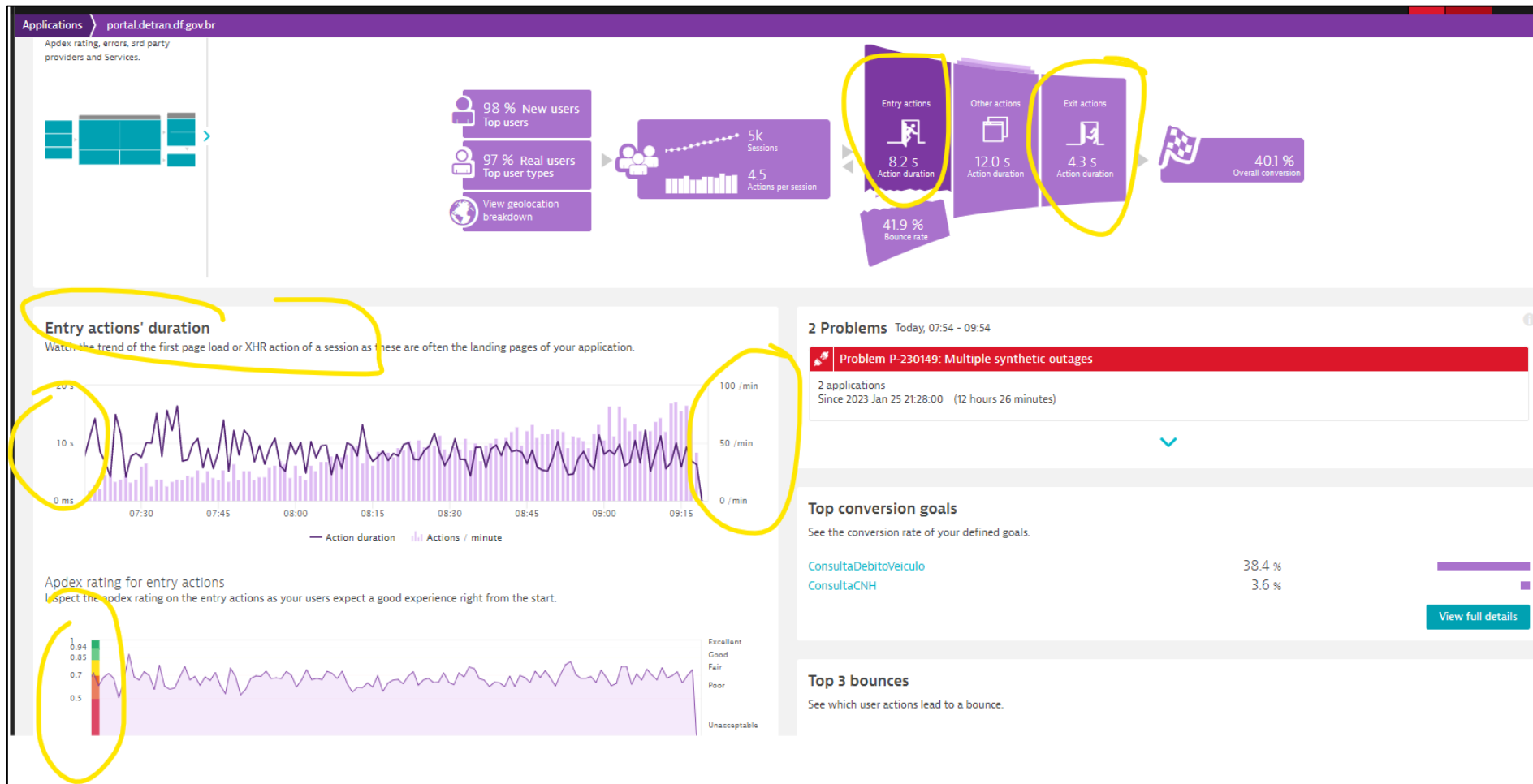
View requests



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Departamento de Trânsito do Distrito Federal (DETRAN/DF)

12.3.4.21. A solução deverá coletar e analisar a forma de acesso aos serviços digitais, identificando as atividades de entrada (primeira atividade ao acessar os serviços) e as atividades de saída (última ação executada antes de deixar o serviço digital. Para estas atividades, a solução deverá identificar, além do volume, o tempo médio de duração.

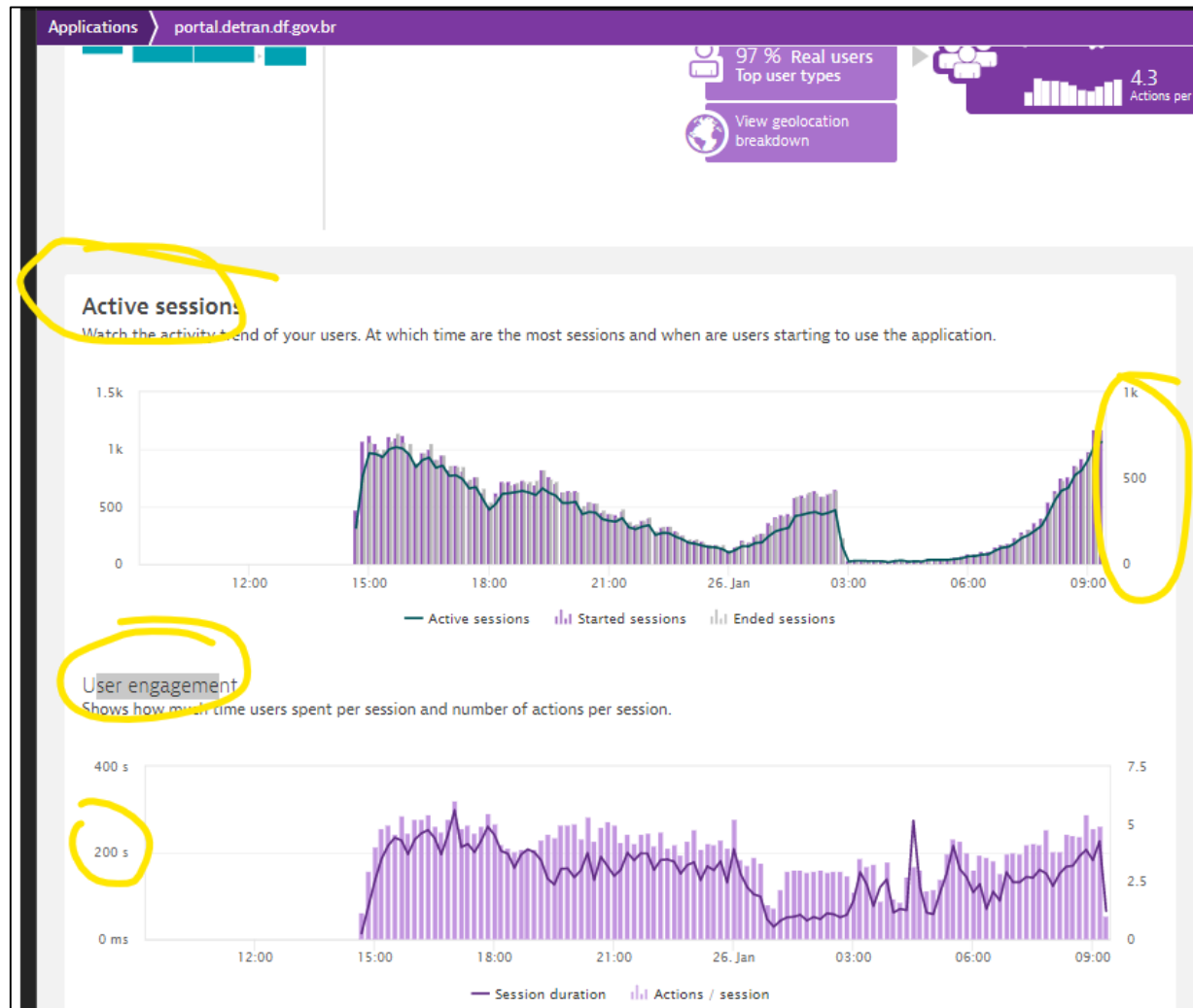




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12.3.4.22. A solução deverá verificar o comportamento de uso dos serviços digitais, verificando o volume de usuários que utilizam o serviço, bem como o tempo médio que os usuários permaneceram utilizando o serviço digital.





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12.3.4.23. A solução deverá disponibilizar funcionalidade que permita a avaliação proativa dos serviços digitais do DETRAN-DF. Entende-se por proativa a análise independente do uso pelos usuários finais. Para esta análise, a solução deverá disponibilizar:

a) Ferramenta para definição do acesso ao serviço digital que será avaliado, bem como a gravação de script de simulação;

The screenshot shows the 'Create synthetic monitor' page in the Dynatrace Synthetic Recorder. The interface is divided into several sections:

- Configuration:** Two input fields for 'Type in the URL of the site you want to monitor' and 'Name this monitor'. Both fields contain placeholder text and have a red error message below them: 'This field cannot be empty.' A '+ Add tag' button is located to the right of the name field.
- Visual mode / Script mode:** Two buttons for selecting the recording mode.
- Device profile:** A section for configuring the device and network. It includes a 'Device' dropdown set to 'Desktop', 'Screen size (pixels)' set to '1920 x 1080 px', 'Bandwidth (download, upload, latency)' set to 'No throttling', and a 'User agent' dropdown set to 'Default Dynatrace user agent'.
- Additional options:** A list of checkboxes for enabling various features: 'Enable global login authentication (not used for recording)', 'Enable additional HTTP headers', 'Block specific requests', 'Set cookies', 'Bypass Content Security Policy (CSP) of monitored pages', and 'Capture performance metrics for pages loaded in frames'.
- Clickpath events:** A section for creating or recording a clickpath, with a sub-section for 'Use the recorder without incognito mode' which includes a checkbox and explanatory text.

At the bottom right of the interface, there are three buttons: 'Record clickpath', 'Back', and 'Next'. The 'Record clickpath' button is highlighted with a yellow circle.



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Synthetic events	Name	Type	Move up/down	Delete
1	 Loading of "https://portal.detran.df.gov.br/#/home"	Navigate	▲ ▼	✕
2	 click on "account_circle Fazer login"	Click	▲ ▼	✕
3	 keystrokes on "Cpf/Cnpj*"	Keystroke	▲ ▼	✕
4	 keystrokes on "Senha*"	Keystroke	▲ ▼	✕
5	 click on "a-czjkt546kz6n"	Click	▲ ▼	✕
6	 click on "gov-br-form"	Click	▲ ▼	✕
7	 click on "enviar"	Click	▲ ▼	✕
8	 click on "accordion-panel-id"	Click	▲ ▼	✕

b) A ferramenta deverá permitir que seja contemplado no script de gravação ações reais dos usuários, simulando, de fato, o acesso que o usuário faz ao acessar o serviço digital;



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Synthetic Create synthetic monitor

in the **credential vault** to increase security and manage access scope.

The following events contain credentials:

- Event 4: keystrokes on "Senha\*\*"
- Event 14: keystrokes on "Senha"
- Event 18: keystrokes on "Senha\*\*"

**Add synthetic event**

Synthetic events	Name	Type	Move up/down	Del
1	Loading of "https://portal.detran.df.gov.br/#/home"	Navigate	▲ ▼	>
2	click on "account_circle Facebook login"	Click	▲ ▼	>
3	keystrokes on "Cpf/Cnpj**"	Keystroke	▲ ▼	>
4	keystrokes on "Senha**"	Keystroke	▲ ▼	>
5	click on "a-czjkt546kz6n"	Click	▲ ▼	>
6	click on "gov-br-form"	Click	▲ ▼	>
7	click on "enviar"	Click	▲ ▼	>

c) A simulação do acesso ao serviço digital, conforme definição e script gravado, sendo executado a partir da Internet (fora das dependências do DETRAN/DF). Dessa forma, será uma visão mais real do usuário dos serviços digitais;



## Governo do Distrito Federal

### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

Synthetic > Create synthetic monitor

3 locations selected

Filter by cloud provider, continent, country, city or by IP address

<input checked="" type="checkbox"/> Location name	Cloud	Type	Browser version	Country	Continent	IP address
<input type="checkbox"/> Cape Town (southafricawest)	Azure	Public	Chrome ver. 108.0.5359.124	South Africa	África	102.133.0.104, 102.133.0.105, 102.133.0.106, 102.133.0.107, 102...
<input type="checkbox"/> Cape Town (af-south-1)	AWS	Public	Chrome ver. 108.0.5359.124	South Africa	África	13.244.39.46, 13.244.51.241, 13.244.89.230, 13.244.129.123, 1...
<input type="checkbox"/> Johannesburg (southafricanorth)	Azure	Public	Chrome ver. 108.0.5359.124	South Africa	África	102.133.130.128, 102.133.131.152, 102.133.131.153, 102.133.131.15...
<input type="checkbox"/> ...	...	...	...	...	...	...

d) A possibilidade de executar estas simulações a cada 5 (cinco) minutos (no mínimo) e de ao menos 3 (três) origens distintas;



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Synthetic > Create synthetic monitor

Type Configuration Frequency and locations

Frequency and locations

Monitor my website every 5min

Dynatrace offers a global network of public synthetic locations out of the box. You can also setup private synthetic locations.

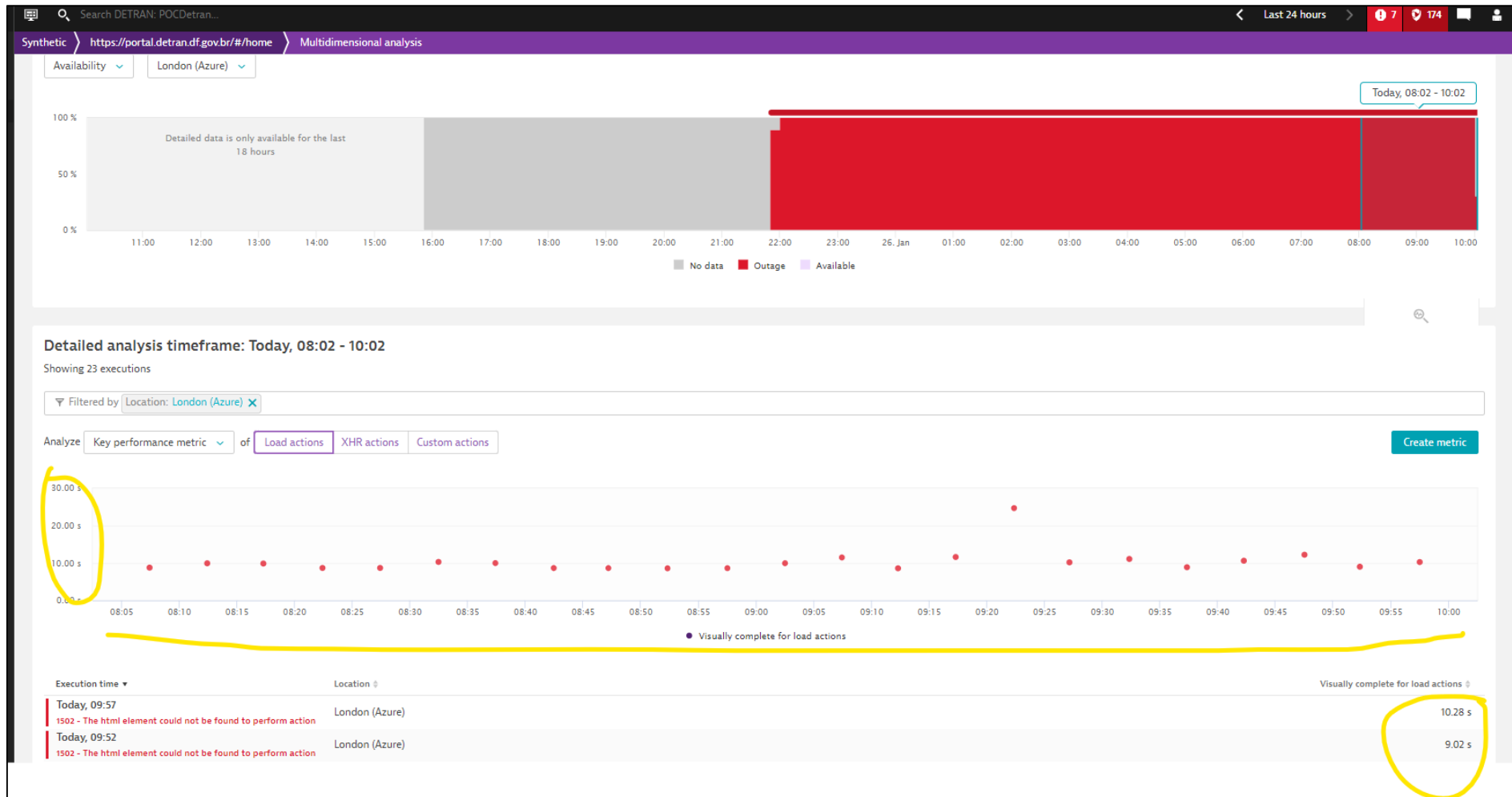
e) Ferramenta para coletar os dados de tempo de cada atividade simulada, exibindo estes dados ao longo do tempo.





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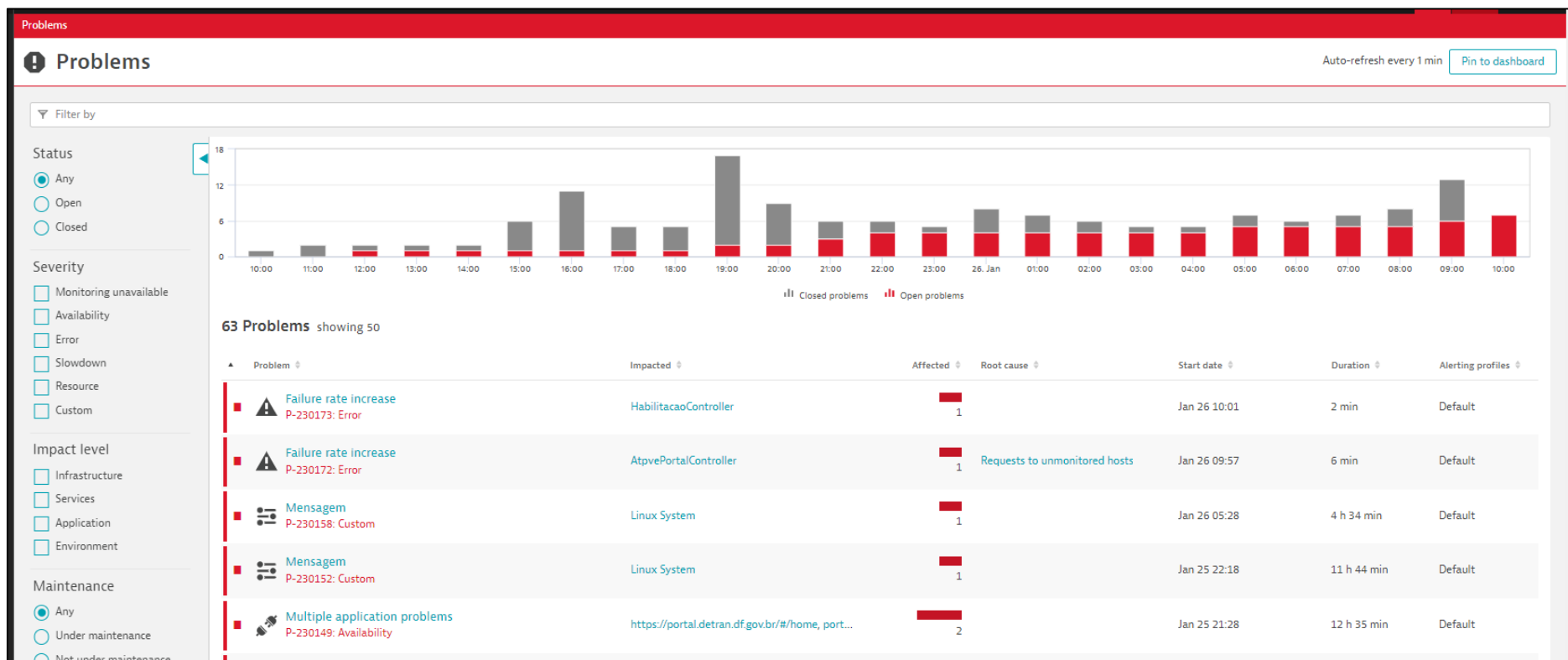
12.3.4.24. Visando a avaliação da qualidade dos serviços digitais, a solução deverá disponibilizar funcionalidade para identificar e analisar as falhas dos serviços digitais. Assim sendo, a solução deve disponibilizar os seguintes requisitos relativos à avaliação de qualidade:



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a) Deve avaliar, de forma automática, os níveis de qualidade dos serviços digitais de forma que, quando algum serviço for impactado, a solução deverá gerar alerta automático, apontando o problema, o impacto (inclusive negocial), usuários afetados (inclusive individualmente) e a origem do mesmo;





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**Problems** | Problem P-230133

**application. Multiple service problems**  
Problem P-230133 detected at Jan 25 19:14 - Jan 25 19:24 (was open for 10 minutes).

Affected applications: - | Affected services: 1 | Affected infrastructure: - | Affected SLOs: -

**Business impact analysis**  
Davis observed the following number of service calls and affected real users during the problem timeframe.

affected users: 17 | affected service calls: 46

**Top 3 entry point services**

Service	Affected Service Calls
VerificaDebitoController	38
CriticaController Default requests (67 % affected)	5
CriticaController	3

**1 impacted service**  
116+ Requests per minute impacted

**Root cause**  
Based on time correlation and analysis of all transactions that use these components, this issue has the following root cause

- application** (Web request service)
- Response time degradation event** (All dynamic requests slow)  
Events on: Service application  
Analyze code level, database calls, and outgoing requests. [Analyze response time degradation](#)
- Failure rate increase event** (All dynamic requests have increased failure rates)  
Events on: Service application  
Understand which requests fail and the underlying root causes and errors. [Analyze failure rate degradation](#)
- Metric anomalies detected** (Review the metrics which show abnormal or outlying behavior.)

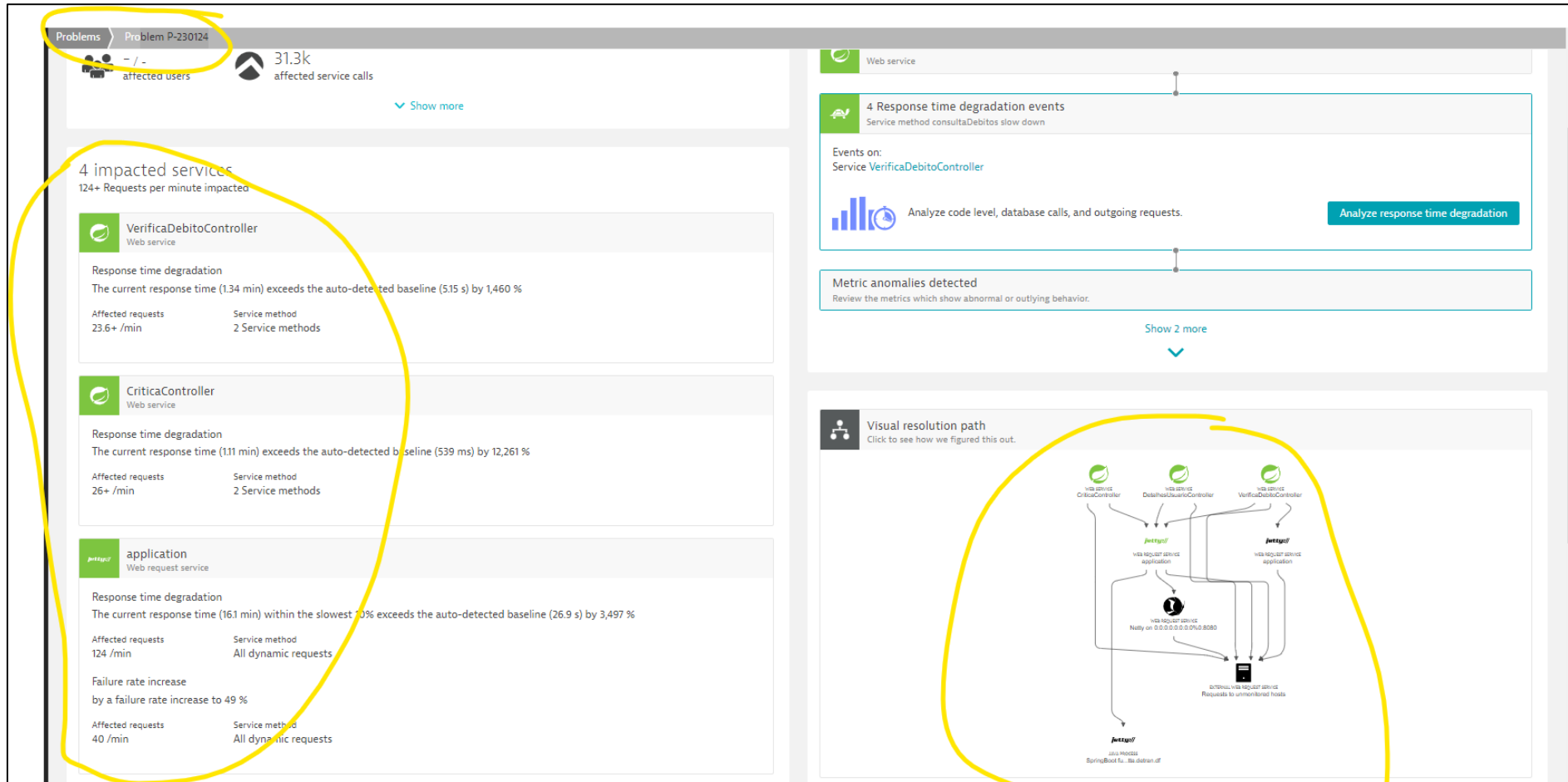
**application** (Web request service)  
Response time degradation  
The current response time (3.58 min) exceeds the auto-detected baseline (2.54 s) by 8,344 %

b) Com o objetivo de evitar que sejam gerados vários alertas referentes a um mesmo problema, a solução deve ter a inteligência de correlacionar subeventos a um evento pai, gerando um único alerta;



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### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

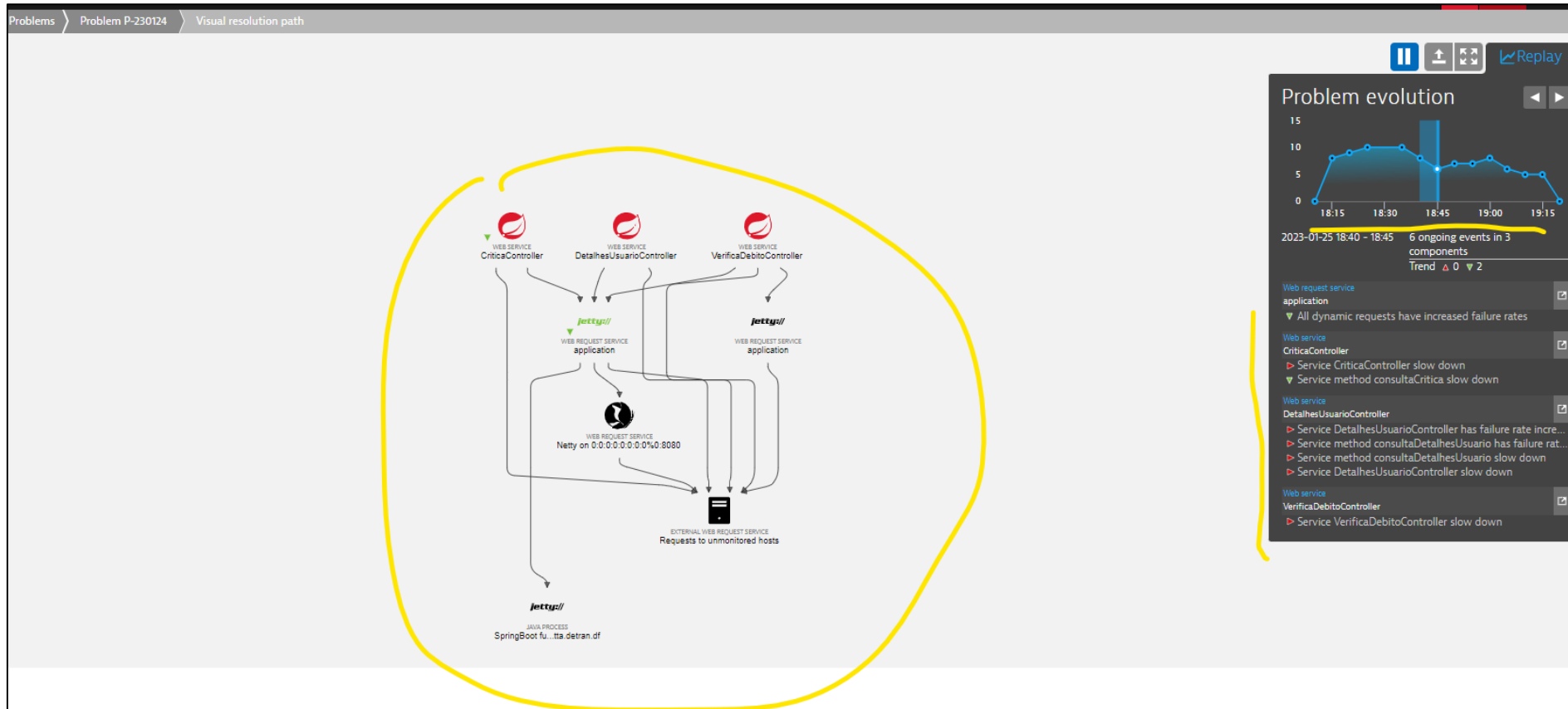


c) Deve disponibilizar ferramenta para análise da evolução da falha, possibilitando a sua reprodução e/ou visualização e correlacionamento dos componentes de tecnologia impactados pela falha;



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d) Com o objetivo de possibilitar uma análise multidisciplinar de uma falha, a solução deve disponibilizar mecanismo para a análise de todas as informações coletadas na janela de tempo da falha.



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The screenshot displays a monitoring interface for a service named 'VerificaDebitoController'. At the top, a navigation bar shows the current problem: 'Problem P-230124: Jan 25, 18:17 - 19:20'. Below this, a main alert box states: '4 Services: Multiple service problems. Problem P-230124 from Jan 25 18:17 - Jan 25 19:20 for 1 hour 3 minutes. This Service has been identified as root cause.' A detailed view of the problem shows 'Response time degradation (4 events)' with a message: 'Response time degradation. The current response time (1.34 min) exceeds the auto-detected baseline (14.6 s) by 451 %'. A table lists affected requests: 22.8 /min for the service method 'consultaDebitos'. The dashboard also features a 'VerificaDebitoController' overview with metrics: 0 Applications, 0 Services, 1 Network client, 20.6 /min Throughput, 6 Services, and 1 Database. A 'Requests' section shows a response time of 14.4 s, a failure rate of 0 %, CPU usage of 18.1 ms/req, and a throughput of 20.6 /min. On the right, there are sections for 'Requests contributing to this problem' (Slow response time 1.1 min for 'consultaDebitos'), 'Multidimensional analysis views' (with a 'Create analysis view' button), and 'Understand dependencies' (with buttons for 'View service flow', 'View backtrace', and 'View distributed traces').

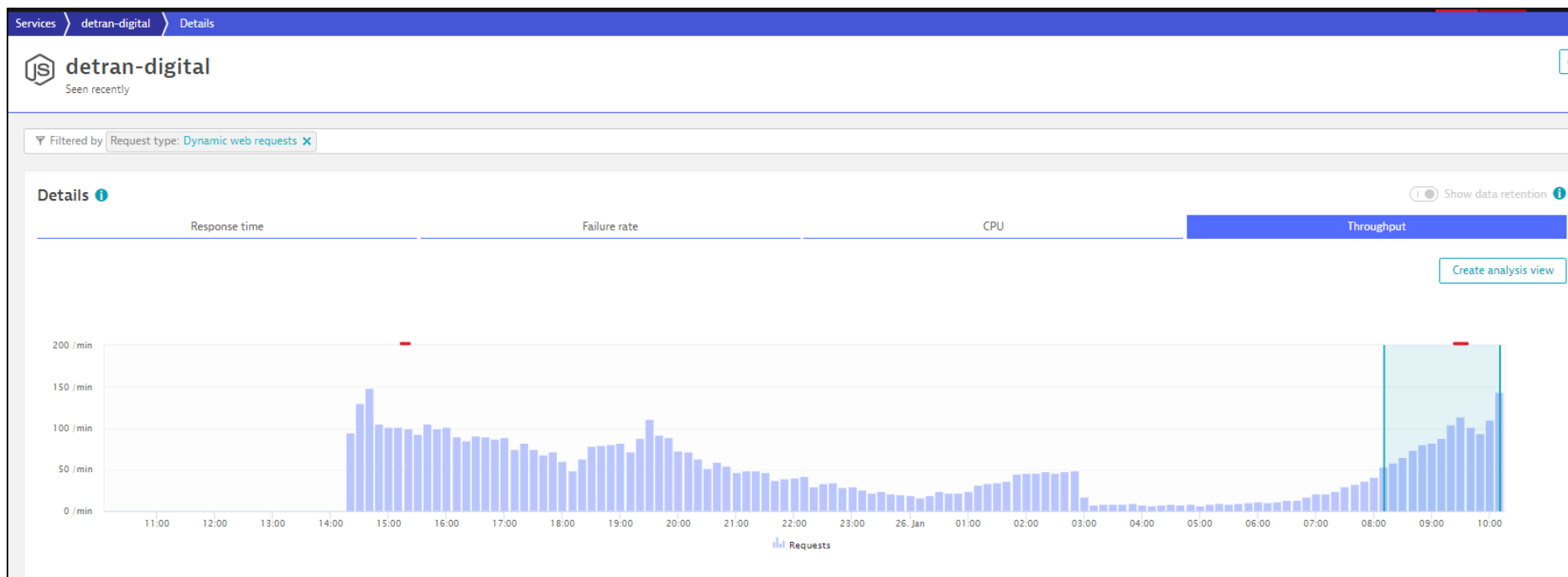
12.3.4.25. A solução deve permitir a análise detalhada da qualidade dos componentes tecnológicos que suportam os serviços digitais, como por exemplo, serviços, servidores (hosts), banco de dados e rede. Para esta análise de qualidade, a solução deverá disponibilizar as seguintes informações:

a) Nível de utilização do recurso ou serviço;



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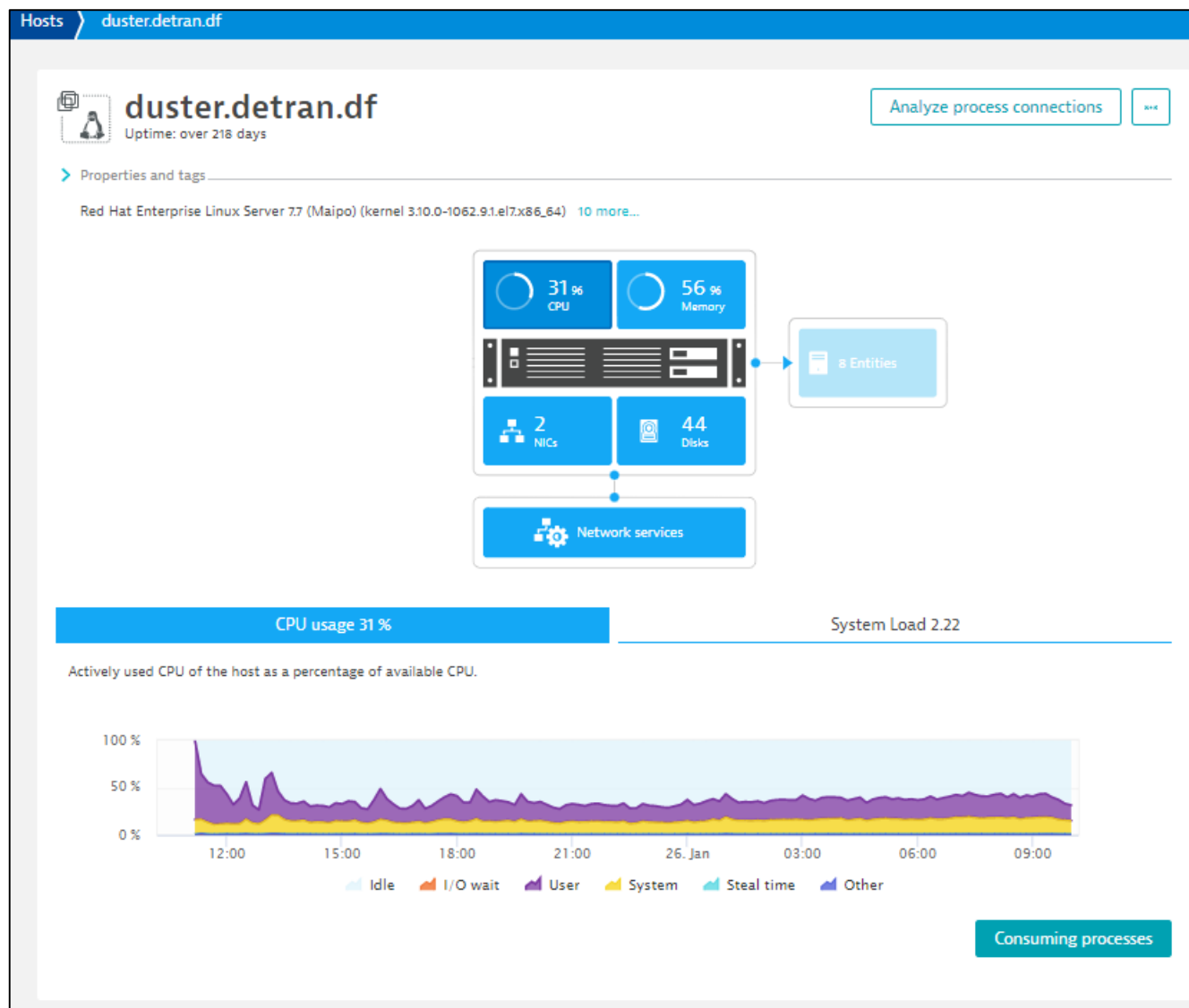
Departamento de Trânsito do Distrito Federal (DETRAN/DF)





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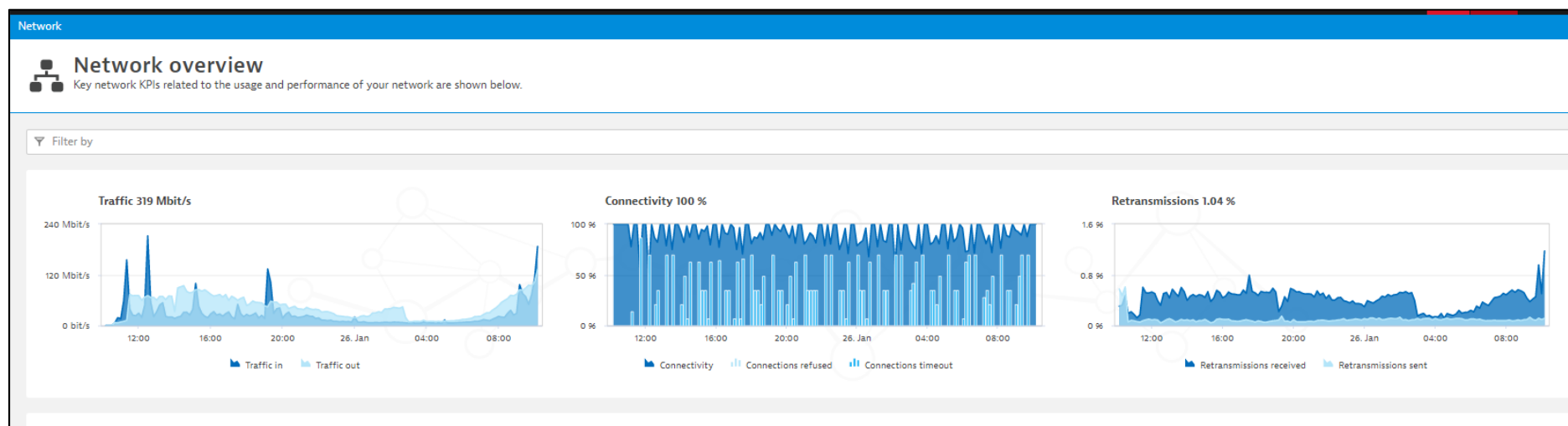
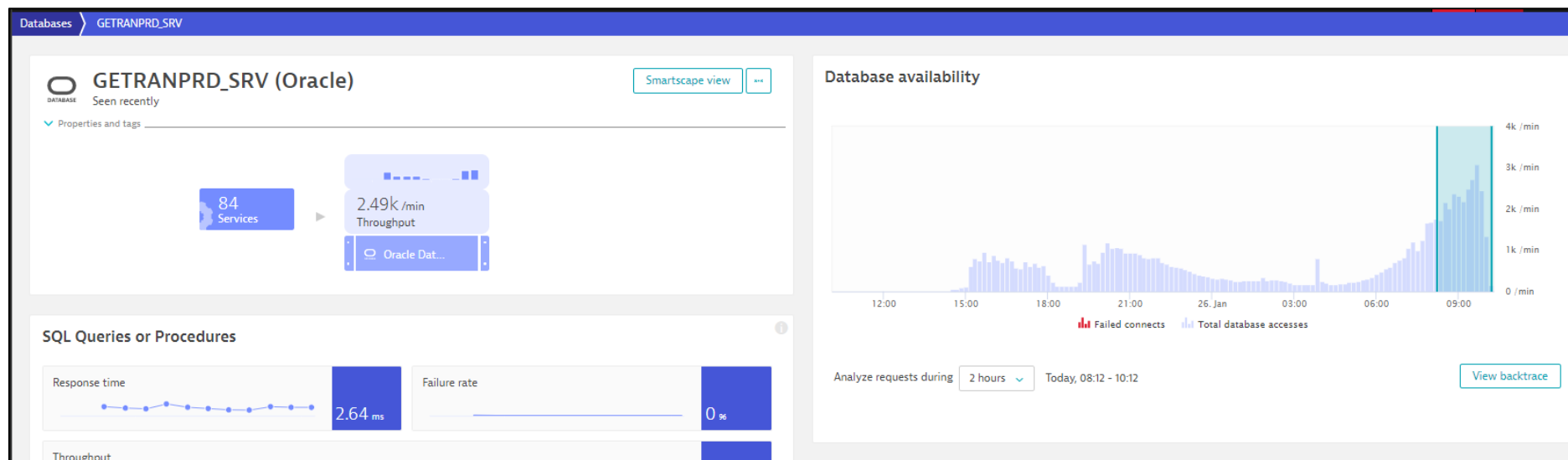






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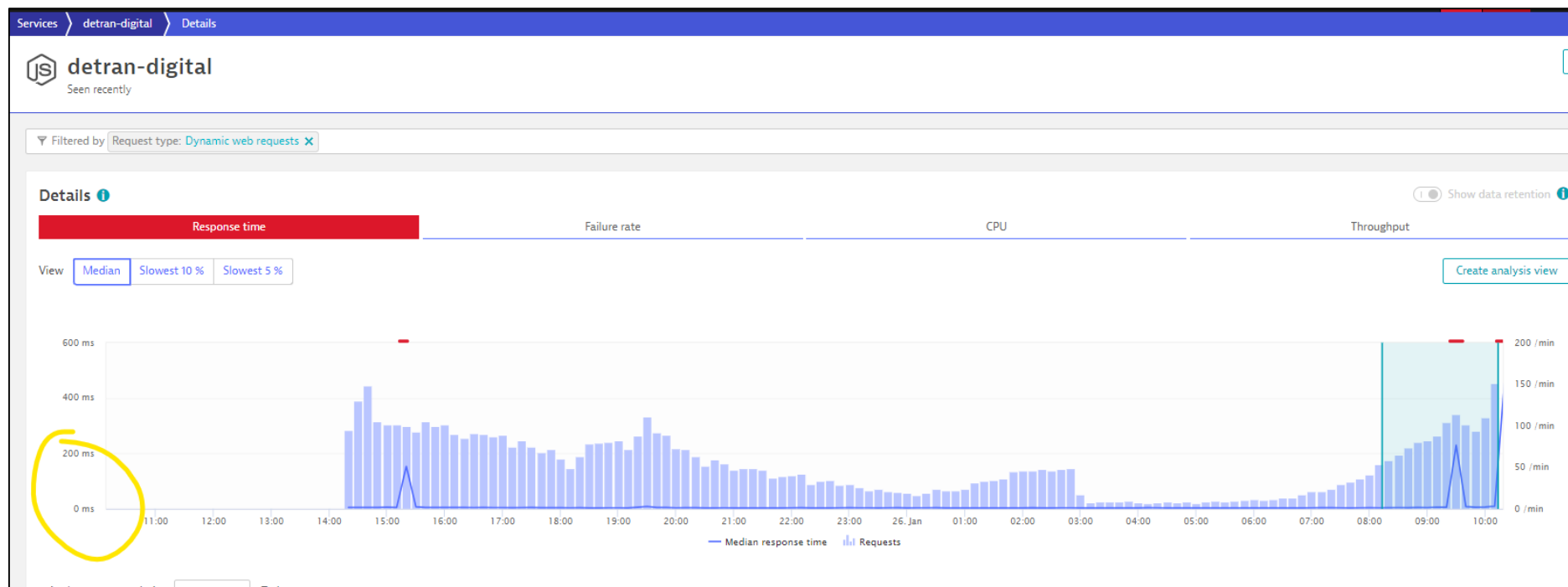


b) Tempo de resposta do recurso ou serviço;



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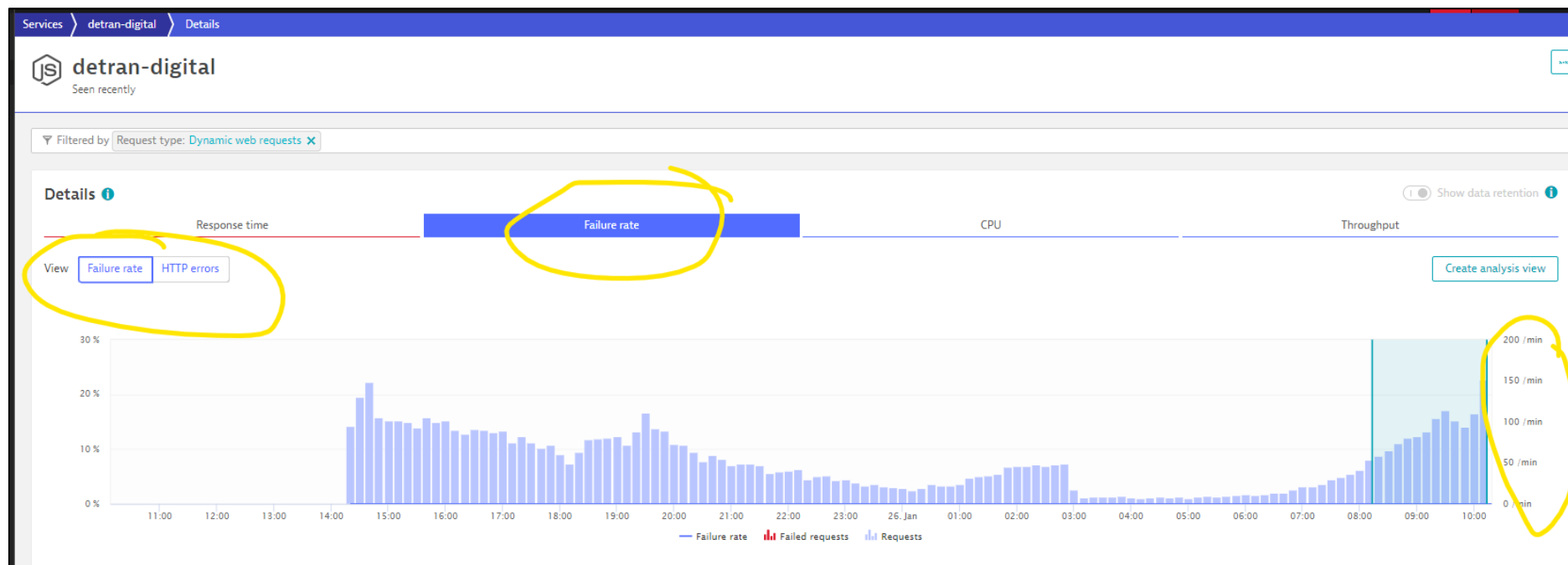


c) Volume de falhas;



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d) Estas informações devem ser disponibilizadas de forma individual para cada recurso ou serviço.



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Services

See all services that were active within the selected timeframe and match the filter settings

Update Pin to dashboard

Top web requests Distributed traces Multidimensional analysis

Filter by

Service type

- Web service
- Web request service
- Background activity

Problem impact

- Any
- Impacted
- Not impacted

Technology

- Apache Camel
- Apache HTTP client
- Apache HTTP Server
- Apache Log4j
- Apache Tomcat

251 Services

5 Services that match your query are associated with Davis-detected problems.

Apply filter

name	Response time median	Slowest 10%	Failure rate	Requests	Actions
Requests to unmonitored hosts	93.3 ms	588 ms	2.93 %	3.76k /min	...
detran-digital app.js (detran-digital) portal-digital-*	168 ms	804 ms	0 %	2.8k /min	...
application SpringBoot fuse-service br.gov.df.detran.BoetoFuseServiceApplication fuse-service-*	370 ms	1.92 s	6.88 %	697 /min	...
Requests to public networks	83.5 ms	217 ms	0.307 %	651 /min	...

12.3.4.26. Ainda em relação à análise detalhada da qualidade dos componentes tecnológicos, a solução deverá disponibilizar mecanismos, integrados, de avaliação de falhas para cada chamada individual a um serviço, identificando e correlacionando as chamadas a banco de dados e a análise em nível de código-fonte das aplicações do DETRAN-DF.



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## Departamento de Trânsito do Distrito Federal (DETRAN/DF)

Services > VerificaDebitoController > Details > Distributed traces

Browse and find distributed traces related with this service.

Most recent 3000 traces  
Analysis range: Today, 09:52 - 10:17

Search for names and http methods...

Details	Start time	Name	Response time	Processing time	Http method	Response code	Actions
	Jan 26 10:14:46.238	consultaDebitos /area-publica/veiculo/debitos/placa?placa=JHA8887&renavam=00930480600	15.3 s	15.3 s	GET	200	...

**Topology**

- Service overview: VerificaDebitoController
- Service type: Web service
- Process: SpringBoot verifica-debito br.com.detrان.veiculo.verifica.debito.VerificaDebitoAppl i verifica-debit (verifica-debito-118-fjccqd)
- Technology: Apache Tomcat
- W3C trace ID: c4a35fdeb88a2c5e4cd725535c994314

**HTTP**

- Relative URL: /area-publica/veiculo/debitos/placa?placa=JHA8887&renavam=00930480600
- Response code: 200
- Method: GET
- Host: portal-verifica-debito-portal-prod.detrان.df.gov.br

**Timings**

- Start time: Jan 26 10:14:46.238
- End time: Jan 26 10:15:01.547
- Response time: 15.3 s
- Processing time: 15.3 s
- Self time: 708 ms

■ Other 675 ms ■ CPU 29.9 ms ■ Network I/O 5.55 ms

**Services**

- Time spent in other services: 14.9 s
- Calls to other services: 2

**Databases**

- Time spent in database calls: 205 ms
- Calls to databases: 21



## Govorno do Distrito Federal

### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

Distributed traces c4a35fdeb88a2c5e4cd725535c994314

### '/api/veiculo/cod barras/SEM\_BOLETO/9BD17206G83351125/ANOS\_ANTERIORES/debitos' Trace

Start time: 2023 January 26 10:14:46 [What's new?](#) [View logs for this trace](#) [Refine analysis](#) [...](#)

15.4s Response time  
15.4s Processing time

Execution breakdown

- 49 % Waiting
- 48 % Network I/O
- 1.34 % Suspension

Search name, URL, SQL, attribute...

consultaDebitos

Summary	Timing	Threads	Code level	Logs	Errors
getConnection	Built-in Apache   org.apache.tomcat.jdbc.pool.DataSourceProxy			Elapsed Self time Duration Actions	
prepareStatement	Built-in JRE   com.sun.proxy.\$Proxy			+73.8 ms 94 µs   94 µs	...
executeQuery	Built-in JRE   com.sun.proxy.\$Proxy			+73.9 ms 129 µs   129 µs	...
executeQuery	Built-in JRE   com.sun.proxy.\$Proxy			+74.1 ms 6.47 ms   6.47 ms	...
executeQuery	Built-in JRE   com.sun.proxy.\$Proxy			+74.1 ms 6.47 ms   6.47 ms	...
prepareStatement	Built-in JRE   com.sun.proxy.\$Proxy			+81.3 ms 185 µs   185 µs	...
executeQuery	Built-in JRE   com.sun.proxy.\$Proxy			+81.6 ms 6.18 ms   6.18 ms	...
executeQuery	Built-in JRE   com.sun.proxy.\$Proxy			+81.6 ms 6.18 ms   6.18 ms	...
getOutputStream	Built-in JRE   sun.net.www.protocol.http.HttpURLConnection			+89.8 ms 11.9 ms   11.9 ms	...
Asynchronous invocation					
Outgoing web request	Java   JDK URLConnection			+89.9 ms 77 µs   331 ms	...
Synchronous invocation					
getInputStream	application			+89.9 ms 331 ms	...

12.3.4.27. A solução deverá disponibilizar ferramenta para possibilitar a criação de painéis e relatórios. Estes painéis e relatórios devem conter informações e métricas coletadas pela solução e detalhada nestes requisitos. Além disso, deve disponibilizar painéis já configurados e possibilitar a configuração e adequação dos mesmos. Deve também permitir a criação de várias visões e o compartilhamento destes painéis.



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**Dashboards**  
Overview of all dashboards you are permitted to view or edit.

Please provide feedback and find planned enhancements at [Dynatrace answers](#).

Show all tenant dashboards (for admin users only)

Filter by

**9 Dashboards** Import dashboard Create dashboard

Favorite	Name	Popularity	Modified at	Owner
<input type="checkbox"/>	teste Custom charts	<div style="width: 100%;"></div>	Jan 25 21:32	dorgival.barros@verytecnologia.com.br
<input type="checkbox"/>	Synthetic Monitoring Preset	<div style="width: 20%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Davis® health self-monitoring Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Real User Monitoring Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Metric & Dimension Usage + Rejections Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Kubernetes cluster overview Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	OneAgent Traces – Adaptive traffic management Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Kubernetes workload overview Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace
<input type="checkbox"/>	Kubernetes namespace resource quotas Preset	<div style="width: 10%;"></div>	Jan 20 09:43	Dynatrace

**Ownership**

- Any
- Mine
- Shared with me

**Favorite**

- Any
- Yes
- No

**Owner**

- Any
- Dynatrace
- dorgival.barros@verytec...

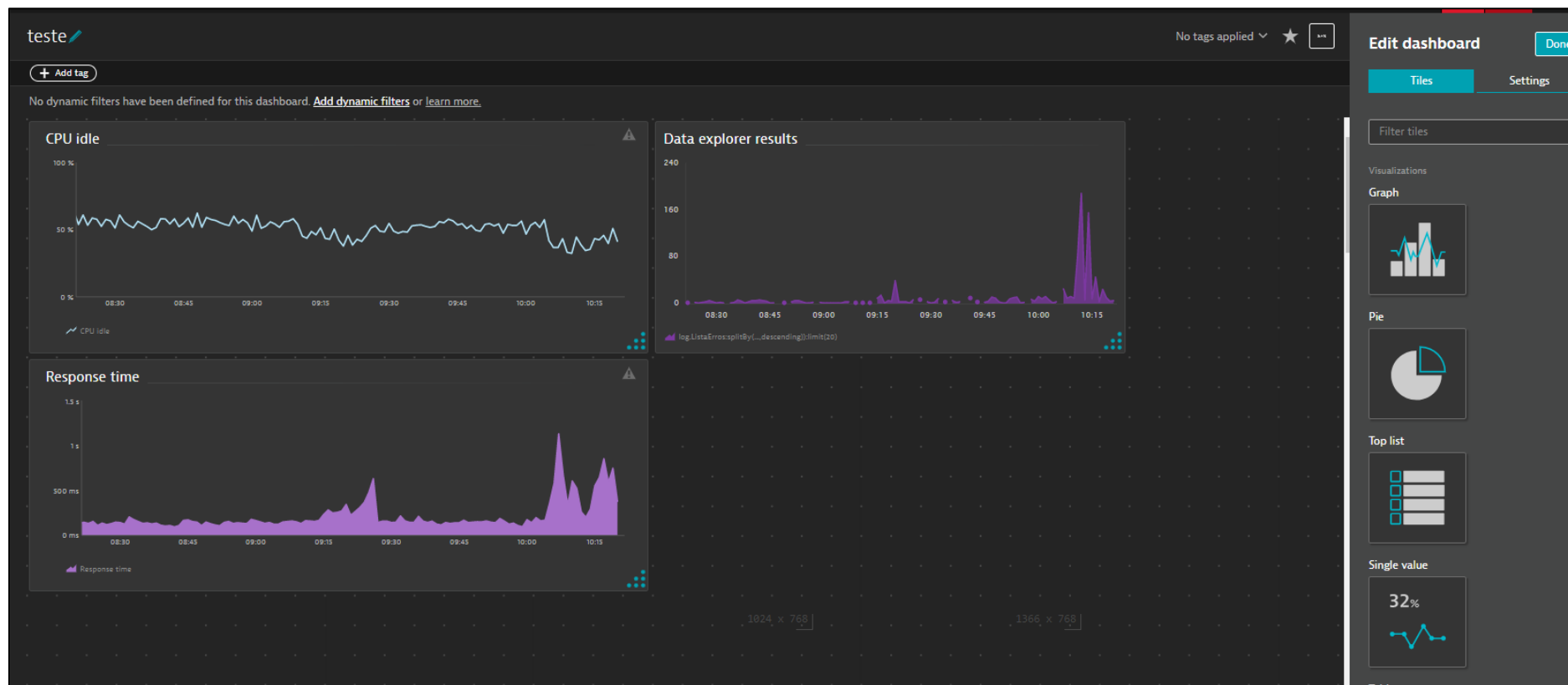
**Tag**

- Applications
- Kubernetes
- Metrics
- Reporting
- Synthetic



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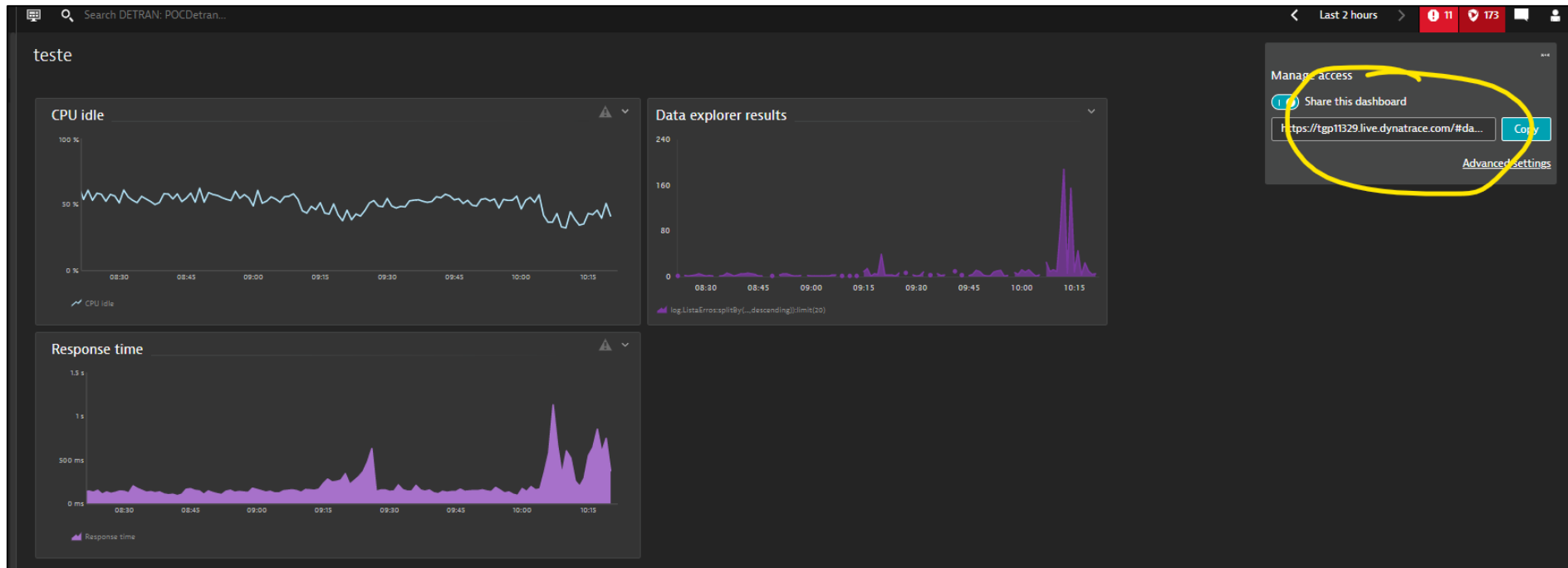






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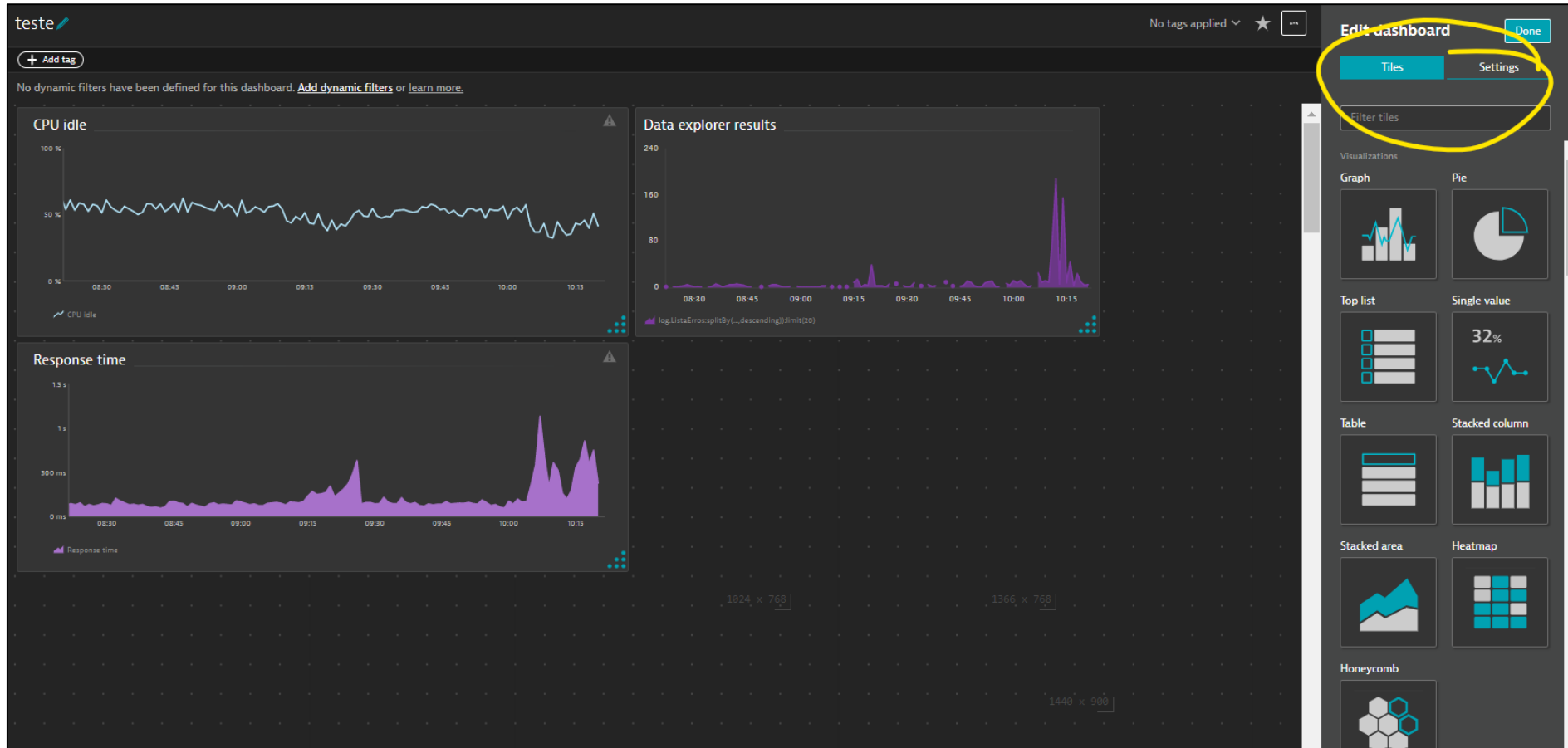


12.3.4.28. Para a geração de relatórios e painéis, a solução deverá permitir que os mesmos sejam gerados avaliando intervalos de tempo, correlacionando e agregando informações. Para isso, não poderá utilizar de programação de software, ou seja, deve disponibilizar mecanismos onde usuários com treinamento da solução possam gerar e customizar seus próprios painéis e relatórios.



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12.3.4.29. A solução deverá se hospedada em nuvem, própria ou de terceiros. No entanto, caso haja a necessidade de instalação de componentes para realizar a coleta das informações, este poderá ser instalado nos servidores do DETRAN-DF, desde que respeitado as questões de segurança e recursos já detalhados neste processo.



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The screenshot displays a Dynatrace dashboard for a dashboard named "teste". The browser address bar shows the URL: `top11329.live.dynatrace.com/#edit:gtf=-2h;gf=all;id=2a2d8fca-3c88-4c08-9543-ef4bfa9b0e68`. The dashboard contains three main visualization tiles:

- CPU idle:** A line graph showing CPU usage percentage over time from 08:30 to 10:15. The y-axis ranges from 0% to 100%. The usage fluctuates between approximately 20% and 60%.
- Data explorer results:** A bar chart showing log results for `log.ListaEnrosplidy..._descending(3)limit(20)` from 08:30 to 10:15. The y-axis ranges from 0 to 240. A significant spike is visible at approximately 10:10, reaching a value of about 180.
- Response time:** A bar chart showing response time in milliseconds from 08:30 to 10:15. The y-axis ranges from 0 ms to 1.3 s. The response time is generally low (under 100 ms) but shows several spikes, with the highest reaching approximately 1.1 s at 10:10.

The right sidebar shows the "Edit dashboard" panel with various visualization options like Graph, Pie, Top list, Single value, Table, Stacked column, Stacked area, and Heatmap. The "Single value" tile currently displays "32%".



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The screenshot shows a web browser window with the URL `tgp11329.live.dynatrace.com/#edit;gtf=-2h;gf=all;id=2a2d8fca-3c88-4c08-9543-ef4bfa9b0e68`. The page displays the Dynatrace logo and a "Loading..." indicator. The Chrome DevTools Network tab is open, showing a list of resources and a detailed view of a request to `https://tgp11329.live.dynatrace.com/`. The request details are circled in yellow and include:

- Request URL: `https://tgp11329.live.dynatrace.com/`
- Request Method: GET
- Status Code: 200 OK
- Remote Address: `[64:ff9b::22c3:e60c]:443`
- Referer: `https://tgp11329.live.dynatrace.com/`

The response headers are also visible, including `cache-control: max-age=0, no-cache, no-store, must-revalidate`, `content-encoding: gzip`, and `content-security-policy: default-src 'self' 'nonce-J5HF5naFTo086sIIN9nclWG==' data: ;script-src 'self' https://d2kilyuufn7s9.cloudfront.net https://d21m0p9xttk9v1.cloudfront.net https://d387ft59mjvb2.cloudfront.net/ https://app.intercom.io https://widget.intercom.io https://js.intercomcdn.com https://js-cdn.dynatrace1abs.com 'unsafe-inline' 'unsafe-eval' https://chat-one.dynatrace.com`.

12.3.4.30. A solução deverá respeitar e deverá ser aderente aos requisitos de segurança especificados na sessão “Requisitos de segurança”.



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The image shows a screenshot of a web browser displaying a Dynatrace dashboard and the Chrome DevTools network tab. The browser's address bar shows the URL `https://tgp11329.live.dynatrace.com/#edit;gtf=-2h;gf=all;id=2a2d8fca-3c88-4c08-9543-ef4bfa9b0e68`, which is highlighted with a yellow circle. The browser's taskbar includes icons for SEI EXTERNO, SONDAPLUS, OnCast - YouTube, and several www.ca.com links. The Dynatrace dashboard is titled "teste" and features a sidebar with navigation options like "Favorites", "Observe and explore", and "Infrastructure". The main content area contains three panels: "CPU idle" (a line graph showing CPU usage over time), "Data explorer results" (a bar chart showing log error counts), and "Response time" (displaying a value of 1.5 s). The Chrome DevTools network tab is open, showing a list of requests and a detailed view of a request to `tgp11329.live.dynatrace.com` with a status of 200 OK. The network tab includes a filter bar, a timeline, and a detailed view of the request headers, preview, response, initiator, timing, and cookies.



## Governo do Distrito Federal

### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

Applications > portal.detran.df.gov.br > Settings > Data privacy > Session Replay

Update your application name

**Data privacy**  
Protect your users' data privacy

General  
Edit RUM privacy settings

**Session Replay**  
Restrict data capture for Session Re...

Capturing  
Control what is captured

Behavior analytics  
Configure behavior relevant settings

Metrics  
Manage and create metrics

Errors  
Configure how errors are captured

Anomaly detection  
Fine-tune the sensitivity and thresholds

Injection  
Control how RUM is injected

**URL exclusion**  
Exclude webpages or views from Session Replay recording by adding [URL exclusion rules](#)

[Add exclusion rule](#)

**Content masking preferences**  
To protect your end users' privacy, select or customize [predefined masking options](#) that suit your content recording and playback requirements.

[Recording masking settings](#)      [Playback masking settings](#)

Recording masking settings are applied at record time. When you set these settings to a more restrictive option, the same option is also enabled for the playback masking settings.

Recording masking settings

Recording masking settings are applied at record time. When you set these settings to a more restrictive option, the same option is also enabled for the playback masking settings.

**Mask all**  
Mask all texts, user input, and images. Results in a wireframe-like replay experience that allows you to understand how your end users navigate through your application, without the risk of exposing their personal data. The following data is masked:

- Input fields and UI control labels
- List boxes and other UI controls
- Form data and controls
- Images, except background images, or images set by the CSS
- Paragraphs, labels, and other text blocks
- Text found in hyperlinks
- Attribute values

**Mask user input**  
Mask all data that is provided through user input. Results in an accurate visual representation of the end user's journey through your application while keeping your users' input and choices masked. The following data is masked:

- Input fields
- List boxes and other UI controls
- Form data and controls

**Allow list**  
Based on the **Mask all** option, this option allows you to specify web elements or attributes that should not be masked.

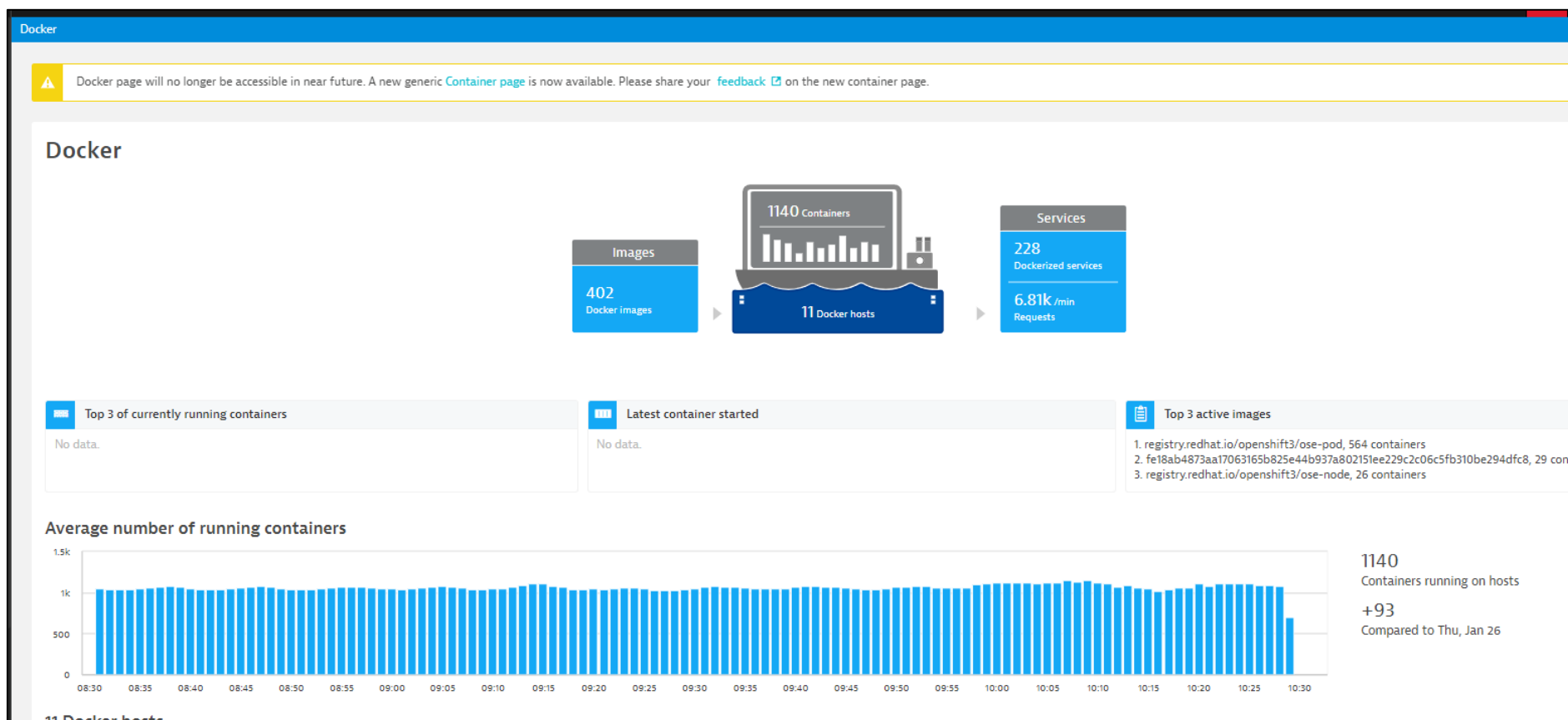
**Block list**  
This option allows you to specify web elements or attributes that should be masked. Any web element or attribute not in this list will be captured. When you initially select this masking option, you get rules that reflect the **Mask all** option.



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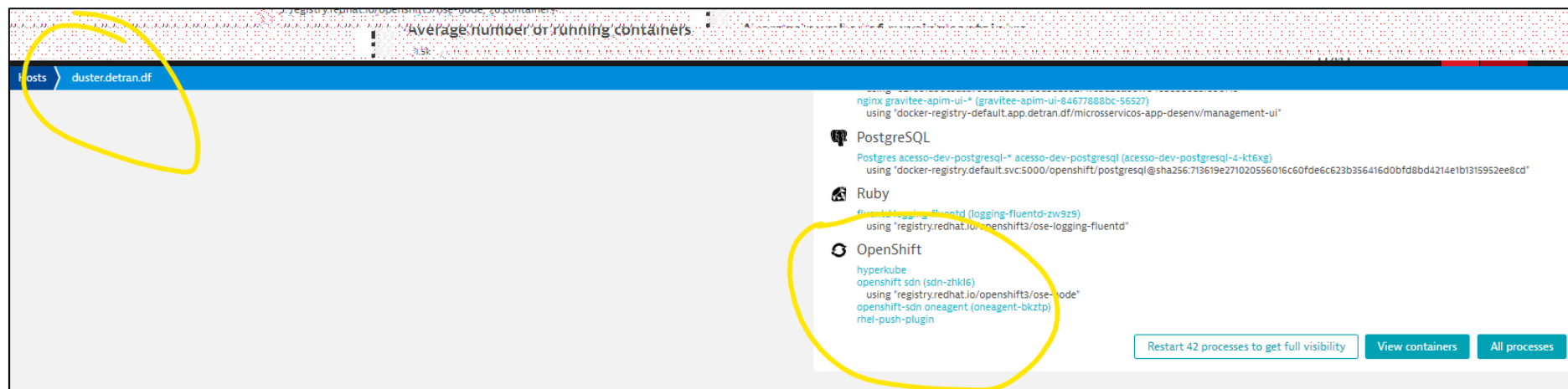
12.3.4.31. A solução deverá ter a capacidade de monitorar aplicações monolíticas ou baseadas em arquitetura de micro serviços, em ambientes containerizados com Docker e Kubernetes, gerenciados com, no mínimo, openshift e rancher.





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Obs.: Compatibilidade com o rancher foi demonstrado via documentação técnica: <https://www.dynatrace.com/support/help/technology-support>





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The screenshot displays the Dynatrace documentation page for Container platforms. The navigation menu on the left includes sections like 'Get started with Dynatrace', 'What's new', and 'Technology support'. The main content area is titled 'Container platforms' and 'Kubernetes'. It provides an overview of supported distributions and hosted versions. The 'Distributions' list includes Google Anthos, Mirantis Kubernetes Engine, Rancher 2.0, Red Hat OpenShift Container Platform, VMware Tanzu Kubernetes Grid Integrated Edition, D2iQ Konvoy, and Oracle Container Engine for Kubernetes (OKE). The 'Hosted versions' list includes Amazon Elastic Kubernetes Service, Azure Kubernetes Service, Google Kubernetes Engine, RedHat OpenShift Service on AWS (ROSA), IBM Kubernetes Service, OpenShift Dedicated, SUSE Container as a Service platform, and GKE Autopilot. Footnotes provide additional details on support limitations, and a link to the support model is provided at the bottom.

12.3.4.32. Para realizar o monitoramento de ambientes e aplicações containerizado, não será permitido que sejam feitas alterações nos templates de imagem e da estrutura das aplicações, devendo monitorar todos os processos e aplicações em execução nos hosts.

Obs.: Item ficou demonstrado no dia 24/01/2023 no ato da instalação do agente quando a equipe técnica da Very não tinha acesso a configuração do ambiente, sendo possível o acompanhamento e a orientação de forma a evitar qualquer alteração na imagem e na estrutura da aplicação. Este item foi

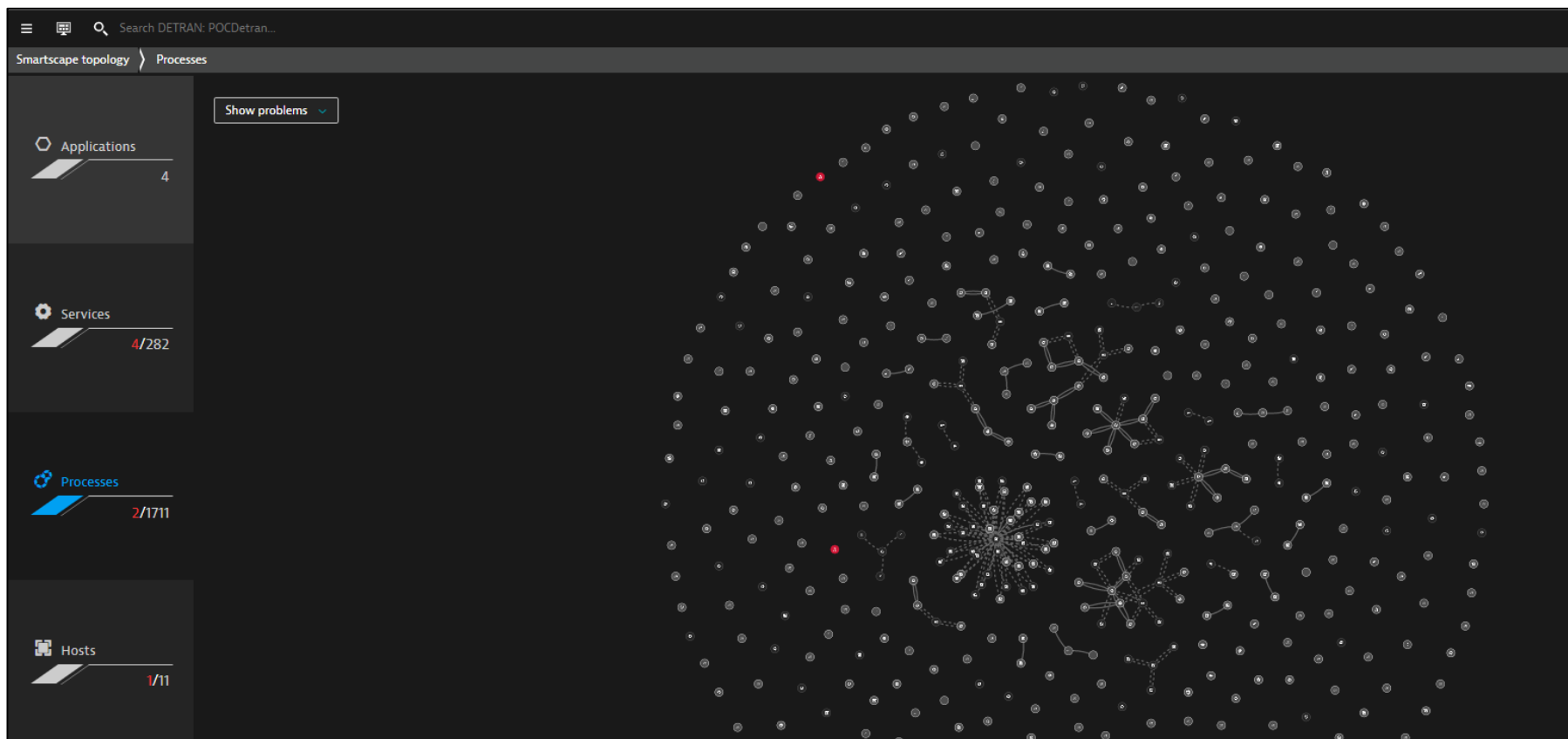


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comprovado também através da documentação técnica: <https://www.dynatrace.com/support/help/how-to-use-dynatrace/infrastructure-monitoring/container-platform-monitoring/kubernetes-monitoring/monitor-cluster-utilization-kubernetes>

12.3.4.33. A solução deverá ser compatível com o ambiente tecnológico do DETRAN-DF e capaz de analisar o ambiente dimensionado.





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### SOLUÇÃO DE ANÁLISE DE SEGURANÇA

12.4.1. A ferramenta deverá realizar teste dinâmico de segurança em aplicação web (DAST - dynamic application security testing), identificando falhas de segurança e vulnerabilidades contidas no código-fonte das aplicações e do ambiente

The screenshot displays a Veracode scan report for the target URL <https://portal.detran.df.gov.br/>. The report is titled "Scan Details" and includes the following information:

- Scan Status:** Completed - Results Available. The scan has successfully completed. Results are available.
- Total Findings by Severity:** Total Findings : 34. Very Low and Information finding counts are not shown here, but are included in the total findings count. The breakdown is: 0 V.High, 0 High, 32 Medium, and 2 Low.
- Scan Duration:** Scheduled Start: 24 Jan 2023 at 09:20PM, Scheduled End: 25 Jan 2023 at 09:20PM, Actual Start: 24 Jan 2023 at 09:24PM, Actual End: 25 Jan 2023 at 02:42PM, Duration: 17h 18m 20s.
- Connection:** Target URL: <https://portal.detran.df.gov.br/>, Resolved IP Address: 131.72.220.186, Connection: Site reachable, Requests: 23133, Responses: 31390, Network Errors: 0, Port Shutdowns: 0.
- Additional Information:** Application: DETRAN\_DF, Results Export: Complete (Results successfully exported to linked application), Internal Scanning: Not configured.

12.4.2. A ferramenta deverá 100% (cem por cento) SaaS, ou seja, deverá ter todos os seus componentes implantados em nuvem própria ou de terceiros, não sendo permitida a implantação de componentes na infraestrutura do DETRAN-DF.



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### Departamento de Trânsito do Distrito Federal (DETRAN/DF)

The screenshot displays a Veracode scan report for the URL <https://portal.detran.df.gov.br/>. The report is titled "Scan Details" and includes the following information:

- Scan Status:** Completed - Results Available. The scan has successfully completed. Results are available.
- Total Findings by Severity:** 34 total findings. The breakdown is: 0 Very High (V.High), 0 High, 32 Medium, and 2 Low.
- Scan Duration:** Scheduled Start: 24 Jan 2023 at 09:20PM, Scheduled End: 25 Jan 2023 at 09:20PM, Actual Start: 24 Jan 2023 at 09:24PM, Actual End: 25 Jan 2023 at 02:42PM, Duration: 17h 18m 20s.
- Connection:** Target URL: <https://portal.detran.df.gov.br/>, Resolved IP Address: 131.72.220.186, Connection: Site reachable, Requests: 23133, Responses: 31390, Network Errors: 0, Port Shutdowns: 0.
- Additional Information:** Application: DETRAN DF, Results Export: Complete (Results successfully exported to linked application), Internal Scanning: Not configured.

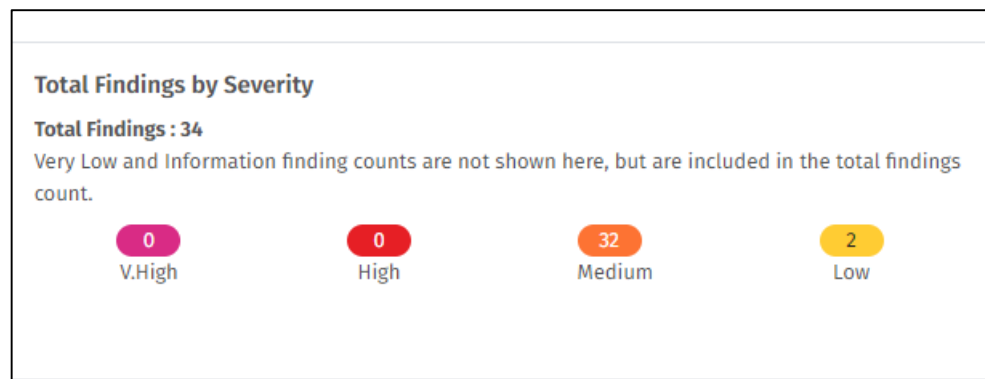
The interface also shows a "Feedback" button and a "Scan Notes" section at the bottom. On the right side, a DevTools window is open, showing the HTML structure of the page, including a button element with attributes like `type="button"` and `id="_pendo-badge_u96jxlddyiwU8x2alv09y6_atOM"`.

12.4.3. A ferramenta deverá ter baixo nível de falso positivo. Entende-se por falso positivo, o apontamento de vulnerabilidades que, após analisar, não ser caracteriza de fato uma vulnerabilidade. Por baixo nível de falso positivo, considera-se um percentual abaixo de 1% (um por cento).



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12.4.4. A ferramenta deve permitir a definição de uma política de segurança da aplicação, permitindo configurações abaixo:

12.4.4.1. Aderência nos padrões de segurança abaixo: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

a) OWASP;

b) SANS TOP 25;

c) PCI;

d) CERT;

e) Lista de ID do CWE que a aplicação analisada não deve conter;

f) Lista de severidades de falhas que a aplicação analisada não deve conter;

g) Lista de categorias de falhas que a aplicação analisada não deve conter

h) Pontuação (score) mínima que a aplicação deve ter como resultado da verificação, tendo como base o CVSS (Common Vulnerability Scoring System).



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### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement: **PCI**

- Auto-Update PCI (Latest version of OWASP, CWE Top 25, and CERT) ?
- PCI 3.2.1 (OWASP 2017, CWE 2020, CERT 2018) ?

**OWASP Top 10**

- Auto-Update OWASP ?
- OWASP 2017

**OWASP Mobile**

- OWASP Mobile

**CWE Top 25**

- Auto-Update CWE Top 25 ?
- 2020 CWE Top 25

**CERT**

- Auto-Update CERT ?

[Show legacy standards](#)

Itens: A, B, C e D



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### Add New Rule ✕

Rule Type: Findings with CWE ID ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement: Select one or more CWEs to restrict findings with the CWE ID.

CWEs

<input type="checkbox"/>	CWE ID	Issue
<input type="checkbox"/>	<a href="#">CWE 5</a>	J2EE Misconfiguration: Data Transmission Without Encryption
<input type="checkbox"/>	<a href="#">CWE 6</a>	J2EE Misconfiguration: Insufficient Session-ID Length
<input type="checkbox"/>	<a href="#">CWE 7</a>	J2EE Misconfiguration: Missing Custom Error Page
<input type="checkbox"/>	<a href="#">CWE 8</a>	J2EE Misconfiguration: Entity Bean Declared Remote
<input type="checkbox"/>	<a href="#">CWE 9</a>	J2EE Misconfiguration: Weak Access Permissions for EJB Methods

Item E



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### Add New Rule ✕

Rule Type: Findings by Severity ▼

Apply this rule to the following scan types:

- Static scans, dynamic scans, and manual penetration testing ?
- Software Composition Analysis

Requirement: Select a Severity ▼ not allowed ?

- Very High
- High and above
- Medium and above
- Low and above
- Very Low and above
- Informational and above

Cancel Add Rule to Policy

Item F





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### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement:

<input type="checkbox"/> API Abuse	<input type="checkbox"/> Encapsulation
<input type="checkbox"/> Authentication Issues	<input type="checkbox"/> Error Handling
<input type="checkbox"/> Authorization Issues	<input type="checkbox"/> Format String
<input type="checkbox"/> Buffer Management Errors	<input type="checkbox"/> Information Leakage
<input type="checkbox"/> Buffer Overflow	<input type="checkbox"/> Insecure Dependencies
<input type="checkbox"/> Code Injection	<input type="checkbox"/> Insufficient Input Validation
<input type="checkbox"/> Code Quality	<input type="checkbox"/> Numeric Errors
<input type="checkbox"/> Coding Standards	<input type="checkbox"/> Other
<input type="checkbox"/> Command or Argument Injection	<input type="checkbox"/> Potential Backdoor
<input type="checkbox"/> Credentials Management	<input type="checkbox"/> Race Conditions
<input type="checkbox"/> CRLF Injection	<input type="checkbox"/> Server Configuration
<input type="checkbox"/> Cross-Site Scripting (XSS)	<input type="checkbox"/> Session Fixation
<input type="checkbox"/> Cryptographic Issues	<input type="checkbox"/> SQL Injection
<input type="checkbox"/> Dangerous Functions	<input type="checkbox"/> Time and State
<input type="checkbox"/> Deployment Configuration	<input type="checkbox"/> Untrusted Initialization
<input type="checkbox"/> Directory Traversal	<input type="checkbox"/> Untrusted Search Path

Item G



Governo do Distrito Federal

Departamento de Trânsito do Distrito Federal (DETRAN/DF)

### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement:  Minimum Allowable Scan Quality Score  
*Enter a value between 1 and 100*

Item H

12.4.4.2. Lista de ID do CWE que a aplicação analisada não deve conter;



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### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement: Select one or more CWEs to restrict findings with the CWE ID.

CWEs

<input type="checkbox"/>	CWE ID	Issue
<input type="checkbox"/>	<a href="#">CWE 5</a>	J2EE Misconfiguration: Data Transmission Without Encryption
<input type="checkbox"/>	<a href="#">CWE 6</a>	J2EE Misconfiguration: Insufficient Session-ID Length
<input type="checkbox"/>	<a href="#">CWE 7</a>	J2EE Misconfiguration: Missing Custom Error Page
<input type="checkbox"/>	<a href="#">CWE 8</a>	J2EE Misconfiguration: Entity Bean Declared Remote
<input type="checkbox"/>	<a href="#">CWE 9</a>	J2EE Misconfiguration: Weak Access Permissions for EJB Methods

12.4.4.3. Lista de severidades de falhas que a aplicação analisada não deve conter;



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### Add New Rule ✕

Rule Type: Findings by Severity ▾

Apply this rule to the following scan types:

- Static scans, dynamic scans, and manual penetration testing ?
- Software Composition Analysis

Requirement: Select a Severity ▾ not allowed ?

- Very High
- High and above
- Medium and above
- Low and above
- Very Low and above
- Informational and above

Cancel Add Rule to Policy

12.4.4.4. Lista de categorias de falhas que a aplicação analisada não deve conter;



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### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement:

<input type="checkbox"/> API Abuse	<input type="checkbox"/> Encapsulation
<input type="checkbox"/> Authentication Issues	<input type="checkbox"/> Error Handling
<input type="checkbox"/> Authorization Issues	<input type="checkbox"/> Format String
<input type="checkbox"/> Buffer Management Errors	<input type="checkbox"/> Information Leakage
<input type="checkbox"/> Buffer Overflow	<input type="checkbox"/> Insecure Dependencies
<input type="checkbox"/> Code Injection	<input type="checkbox"/> Insufficient Input Validation
<input type="checkbox"/> Code Quality	<input type="checkbox"/> Numeric Errors
<input type="checkbox"/> Coding Standards	<input type="checkbox"/> Other
<input type="checkbox"/> Command or Argument Injection	<input type="checkbox"/> Potential Backdoor
<input type="checkbox"/> Credentials Management	<input type="checkbox"/> Race Conditions
<input type="checkbox"/> CRLF Injection	<input type="checkbox"/> Server Configuration
<input type="checkbox"/> Cross-Site Scripting (XSS)	<input type="checkbox"/> Session Fixation
<input type="checkbox"/> Cryptographic Issues	<input type="checkbox"/> SQL Injection
<input type="checkbox"/> Dangerous Functions	<input type="checkbox"/> Time and State
<input type="checkbox"/> Deployment Configuration	<input type="checkbox"/> Untrusted Initialization
<input type="checkbox"/> Directory Traversal	<input type="checkbox"/> Untrusted Search Path

12.4.4.5. Pontuação (score) mínima que a aplicação deve ter como resultado da verificação, tendo como base o CVSS (Common Vulnerability Scoring System).



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### Add New Rule ✕

Rule Type:  ▼  
*This rule type applies to static scans, dynamic scans, and manual penetration testing.*

Requirement:  Minimum Allowable Scan Quality Score  
*Enter a value between 1 and 100*

12.4.5.A ferramenta deve permitir configurar um perfil/cadastro na ferramenta para aplicações, permitindo:

12.4.5.1. Definir um nome de identificação;

### Application Basics

Application Name: \*   
*Ex. Microsoft Word 2010 or Eclipse*

12.4.5.2. Definir descrição da aplicação e seu propósito;

Description:



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12.4.5.3. Atrelar uma política de segurança do aplicativo (conforme requisitos definidos neste documento), onde a aplicação é avaliada perante os resultados não aderentes a sua política de segurança.

### Policy Control

The policy control for the application defines the target for security quality, defines required scans, and sets required timelines for fixing or mitigating flaws. [Help](#)

Business Criticality:\*

Policy:\*  [? Create New Policy](#)

*The default policy for the selected Business Criticality is 'Veracode Recommended POV.' You may select a different policy.*

12.4.5.4. Definir quais times de desenvolvimento terão visibilidade da aplicação e seus resultados;

Visibility:\*  Security Leads Only  
 Teams & Security Leads

*Security Leads can access all application permissions.* [?](#)

POV\_DETRAN-DF

12.4.5.5. Histórico das análises DAST executadas, contendo seus resultados, bem como análise em execução.



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**Scans**

All Scans Concurrent Sandbox Scans: 0/10 [?](#) Start a Scan

Show All

1 - 1 of 1 Rows: 10

Scan Type	Scan Name	Status	Start Date	Publish Date	Results
Dynamic Analysis	<a href="https://portal.detran.df.gov.br/">https://portal.detran.df.gov.br/ (1)</a>	Complete : 89	26 Jan 2023 @ 7:15 AM EST	26 Jan 2023 @ 7:18 AM EST	<a href="#">View Results</a>

12.4.6. O motor (engine) de análise DAST deve realizar os testes de segurança, visando a identificação de falhas de segurança na aplicação web, atendendo os itens abaixo:

12.4.6.1. Origem das conexões do motor de análise deve utilizar blocos de IP previamente determinados.

**Firewall Configuration**  
If necessary, enable firewall access to IP address:  
34.195.146.191

**Custom Ports**  
You can use custom ports, for example:  
<http://www.url.com:900/>

12.4.6.2. Deve realizar análise em aplicações web disponíveis através dos protocolos HTTP e HTTPS.





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**Enter URLs**

Enter one URL per line, up to a maximum of 250 lines. Include the `http://` or `https://` protocol and top-level domain. If you do not include a protocol, `http://` is automatically added.

If you enter a URL that was scanned in a previous Dynamic Analysis, the same configuration for that URL is used for this Dynamic Analysis.

12.4.6.3. A exclusão de determinadas URL (endereço web) deve ser permitida visando em evitar os testes de segurança em certas partes do aplicativo web.

▼ URL-Specific Blocklist and Allowlist

**BLOCKLIST** ALLOWLIST

Blocklist :  Do not exclude any specific URLs  
 Exclude the following URLs

12.4.6.4. A localidade da aplicação deve ser indicada através de sua URL, contendo o protocolo (HTTP ou HTTPS), a porta TCP onde o serviço está disponível e o caminho do recurso, conforme a sintaxe definida pela RFC 1738.



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#### Enter URLs

Enter one URL per line, up to a maximum of 250 lines. Include the `http://` or `https://` protocol and top-level domain. If you do not include a protocol, `http://` is automatically added.

If you enter a URL that was scanned in a previous Dynamic Analysis, the same configuration for that URL is used for this Dynamic Analysis.

`https://veracode.com/`

12.4.6.5. O motor da análise deve ser capaz de navegar pela aplicação web de forma automatizada, enumerando os links, páginas, cookies, parâmetros HTTP e demais componentes da aplicação web. O resultado deste procedimento deve ser alvo do teste de segurança realizado pelo motor da análise.



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**UNIQUE URLS FOUND** SCAN ACTIVITY LOG

The Unique URLs Found table provides a simplified view of non-attack scan traffic that Dynamic Analysis detected. Only unique URL data is shown as all duplicates are removed. Most columns can be filtered for a custom view.

**URL column**  
Displays URLs and single-page-application (SPA) document locations, which are URLs that end with a hash, such as `/#edit-settings`

[Show More...](#)

Unique URLs Found

1 - 10 of 1986 Set Columns

URL	Count	Type	Scope
https://portal.detran.df.gov.br/	2238	Multiple Types	Audit
https://portal.detran.df.gov.br/runtime-es2017.d0f5d5b397363a572e6d.js	922	Multiple Types	Audit
https://portal.detran.df.gov.br/polyfills-es2017.5ee16cf46c46979e1d53.js	922	Multiple Types	Audit
https://portal.detran.df.gov.br/styles.e1631a75289c1b3efc73.css	825	Resource	Audit
https://portal.detran.df.gov.br/assets/images/backgrounds/main_back.png	825	Resource	Audit
https://portal.detran.df.gov.br/main-es2017.d96d83556240f154fdaa.js	920	Multiple Types	Audit
https://www.googletagmanager.com/gtag/js?id=UA-152973089-1	437	Network	Ignore
https://portal.detran.df.gov.br/assets/svg/eva_facebook-fill.svg	809	Resource	Audit
https://portal.detran.df.gov.br/assets/svg/akar-icons_twitter-fill.svg	809	Resource	Audit
https://portal.detran.df.gov.br/assets/svg/bx_bxl-linkedin.svg	809	Resource	Audit

1 - 10 of 1986 Rows 10

12.4.6.6. Com base na URL fornecida, o motor de análise deve ser orientado a quanto aos limites da aplicação web, evitando que o teste seja executado em outras aplicações. Deve conter ao menos os seguintes recursos.



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▼ URL-Specific Blocklist and Allowlist

**BLOCKLIST** ALLOWLIST

Blocklist :  Do not exclude any specific URLs  
 Exclude the following URLs

12.4.6.7. Com base na URL informada, indicar se a navegação e testes de segurança podem ser executados: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

- a) Apenas no diretório final da URL;
- b) No diretório final da URL e seus subdiretórios;
- c) Remover limitação, permitindo o motor de análise a navegar em qualquer diretório.

**URL Information**

URL: \*

Add http:// and https:// versions of this URL to the allowlist.

Directory Restrictions :

- Directory and Subdirectories
- Directory Only
- No Restrictions

12.4.6.8. O motor de análise deverá realizar autenticação na aplicação web que está sendo analisada, suportando as seguintes formas de autenticação: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

- a) Não autenticado;
- b) Autenticação básica do HTTP;



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c) Autenticação baseada em certificados de cliente em formato PKCS12.



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#### Authentication

If this URL requires authentication, provide credentials so Veracode can login and perform the scan.

Authentication required:  Not required  
 Required

#### Auto Login [?](#)

Use this method for most applications, including simple login forms that have a username, password, and login button. Auto-Login also works for browser-generated logins, such as, Basic Authentication and NTLMv2. For NTLMv2, you can include the Netbios domain separated from the username with a backslash, for example, DOMAIN\username.

Username: \*

*Username can contain a domain with backslash, e.g. VERACODE\ripley*

Password: \*

#### ▼ Additional Authentication Options

#### Login Script [?](#)

Use this method for multi-step login sequences that contain one or more authentication methods, such as username, password, and PIN.

#### Client Certificate

Use this method for logins that require a certificate for authentication. The certificate must be PFX or P12 file type.

#### Basic Authentication (Browser Generated) [?](#)

Use this method for username and password logins that a browser generates. You can use this method alone or in combination with the Auto-Login or Login Script methods.

#### Custom HTTP Header [?](#)

Use this method for logins that require a custom HTTP header.



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**Client Certificate**

Use this method for logins that require a certificate for authentication. The certificate must be PFX or P12 file type.

Certification: \*  Nenhum arquivo escolhido  
5 MB Maximum

Password: \*

12.4.6.9. Identificar automaticamente formulários de autenticação e realizar a autenticação com base em usuário e senha previamente definidos.

**Auto Login** ?

Use this method for most applications, including simple login forms that have a username, password, and login button. Auto-Login also works for browser-generated logins, such as, Basic Authentication and NTLMv2. For NTLMv2, you can include the Netbios domain separated from the username with a backslash, for example, DOMAIN\username.

Username: \*   
*Username can contain a domain with backslash, e.g. VERACODE\ripley*

Password: \*

12.4.6.10. Importação de um roteiro de autenticação com base no Selenium IDE, onde o motor de análise repetirá o procedimento de autenticação, preenchendo formulários de autenticação e alterando opções/elementos da página de autenticação.



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**Login Script**

Use this method for multi-step login sequences that contain one or more authentication methods, such as username, password, and PIN.

1. Record the script(s) using [Selenium IDE](#) and save in SIDE or HTML format. Watch [How to Record a Login Script](#) and view [Selenium commands supported in Dynamic Analysis](#).
2. Upload the login script.

Login Script: \*  Nenhum arquivo escolhido  
*5 MB Maximum*

► **Optional logout script**

12.4.6.11. Importação de roteiros de navegação personalizados devem ser suportados pela solução, onde, a partir da navegação manual pela aplicação web, seja gerado o roteiro de navegação personalizado e este seja usado pelo motor de análise para repetir as ações na aplicação web.

▼ **Crawl Script**

To ensure a comprehensive scan, upload a crawl script as an HTML file or SIDE (JSON format) file (< 5 MB) containing a single script or test suite.

Crawl Script:  Do not use a crawl script for this URL (best for most sites).  
 Use a crawl script to augment the scan of this URL.

1. Record the script(s) using [Selenium IDE](#) and save as an HTML file or SIDE (JSON format) file.
2. Upload the script.: \*  Nenhum arquivo escolhido  
*5 MB Maximum*

Crawl Options:  Use the automated crawl engine in addition to the crawl script.  
 Scan only what is specified in the crawl script.





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12.4.6.12. Durante as requisições HTTP/HTTPS, o motor da análise deve indicar o campo "User-Agent" do protocolo HTTP (como descrito na RFC 2616). Este campo deve conter dados de navegadores comuns (Firefox, Chrome, Safari e Microsoft Edge), bem como suportar que seja informado um valor personalizado.

▼ **Advanced Options**

**User Agent**

Select a different browser if you want to scan mobile websites and web applications that are designed to allow traffic from that specific browser.

Browser: \*

*Selecting a browser auto-completes the user agent string. If the desired browser is not available, select Custom and enter the user agent string below.*

User Agent:

*Use the browser-specific user agent string format. You can add custom text to the end of the string to identify the traffic source.*

12.4.6.13. Não deve existir um número máximo de links a serem testados e analisados pelo motor DAST, no entanto isto deve ser configurável, permitindo definir uma determinada quantidade de links máximos ou manter ilimitado.



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▼ URL-Specific Blocklist and Allowlist

**BLOCKLIST** ALLOWLIST

Blocklist:  Do not exclude any specific URLs  
 Exclude the following URLs

▼ Crawl Script

To ensure a comprehensive scan, upload a crawl script as an HTML file or SIDE (JSON format) file (< 5 MB) containing a single script or test suite. ?

Crawl Script:  Do not use a crawl script for this URL (best for most sites).  
 Use a crawl script to augment the scan of this URL.

1. Record the script(s) using [Selenium IDE](#) and save as an HTML file or SIDE (JSON format) file.
2. Upload the script.:\*  Nenhum arquivo escolhido  
*5 MB Maximum*

Crawl Options:  Use the automated crawl engine in addition to the crawl script.  
 Scan only what is specified in the crawl script.

12.4.6.14. Durante a execução da análise, o motor DAST deve utilizar-se da tecnologia de multithreading, onde o teste é executado por mais que uma instância de processamento de forma simultânea e paralela.



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▼ **Scan Controls**

Additional options to control the depth and speed of the scan.

**Number of Concurrent Browsers**

Specify a number of concurrent browsers executing crawl and audit activities.

Browsers:

*Range between 1-12*

**Similarity Threshold** ⓘ

Select a threshold to control which web pages the scanner ignores based on the similarity of the content on each page. Ignoring similar pages excludes them from the analysis results.

Strictness:  Most Strict (recommended)  
 Strict  
 Least Strict

12.4.6.15. Visando em evitar testes desnecessários, deve ser possível informar tecnologias utilizadas pela aplicação web (como banco de dados e sistema operacional), removendo assim testes para tecnologias não utilizadas, as seguintes tecnologias devem ser suportadas Oracle, SQL Server, PostgreSQL MySQL, Linux e Windows

[https://docs.veracode.com/r/About\\_the\\_Veracode\\_Dynamic\\_Analysis\\_Workflow](https://docs.veracode.com/r/About_the_Veracode_Dynamic_Analysis_Workflow)

12.4.6.16. Antes de realizar a execução da análise DAST, o motor deve realizar uma verificação prévia, visando em garantir os seguintes aspectos: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

- a) Servidor está acessível pelo motor da análise através da URL informada;
- b) Dados de autenticação na aplicação web estão funcionando;



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c) Motor de análise pode navegar pela aplicação.

### Schedule and Prescan: Detran-DF

Basic Information\*      Configure      Schedule

**Dynamic Analysis Schedule and**  
There are several options for saving, 90 days in the future.

**Prescan Only**  
Use this option for first-time scans and to confirm new authentication credentials. Prescan Only runs once and immediately after submitting an analysis. The prescan tests the connection of each URL and any additional configuration information such as, authentication or internal scanning.

Prescan Only ?  
 Once  
 Recurring

Pause and Resume: Off ▾ ?

Preview Schedule

12.4.6.17. Tarefa de análise DAST deve poder ser executada de imediato, bem como deve ser possível agendar um determinado dia e horário para iniciar.



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### Dynamic Analysis Schedule and Prescan

There are several options for saving, prescanning, or scheduling a Dynamic Analysis. After you configure your Dynamic Analysis, you can save it for submission later, run a prescan to verify connection and to 90 days in the future.

- Frequency:
- Save for Later [?](#)
  - Prescan Only [?](#)
  - Once
  - Recurring

Prescan :  Off

*Prescan runs once, immediately after submitting analysis.*

Start: \*

Recur: \*

Every: \*  week(s)

*Range 1-9*

On: \*

End After: \*  week(s)

*Range 2-52*

Analysis Duration : \*   [?](#)

*Range 1-168*

Pause and Resume:  [?](#)

[Preview Schedule](#)



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12.4.7. A ferramenta deverá emitir relatório das falhas de segurança identificadas pela análise contendo, ao menos:

12.4.7.1. Listagem das URL contempladas pela análise;

**UNIQUE URLS FOUND** SCAN ACTIVITY LOG

The Unique URLs Found table provides a simplified view of non-attack scan traffic that Dynamic Analysis detected. Only unique URL data is shown as all duplicates are removed. Most columns can be filtered for a custom view.

**URL column**  
Displays URLs and single-page-application (SPA) document locations, which are URLs that end with a hash, such as `/#edit-settings`

[Show More...](#)

Unique URLs Found

1 - 10 of 1986 Set Columns

URL	Count	Type	Scope
https://portal.detran.df.gov.br/	2238	Multiple Types	Audit
https://portal.detran.df.gov.br/runtime-es2017.d0f5d5b397363a572e6d.js	922	Multiple Types	Audit
https://portal.detran.df.gov.br/polyfills-es2017.5ee16cf46c46979e1d53.js	922	Multiple Types	Audit
https://portal.detran.df.gov.br/styles.e1631a75289c1b3efc73.css	825	Resource	Audit
https://portal.detran.df.gov.br/assets/images/backgrounds/main_back.png	825	Resource	Audit
https://portal.detran.df.gov.br/main-es2017.d96d83556240f154fdaa.js	920	Multiple Types	Audit
https://www.googletagmanager.com/gtag/js?id=UA-152973089-1	437	Network	Ignore
https://portal.detran.df.gov.br/assets/svg/eva_facebook-fill.svg	809	Resource	Audit
https://portal.detran.df.gov.br/assets/svg/akar-icons_twitter-fill.svg	809	Resource	Audit
https://portal.detran.df.gov.br/assets/svg/bx_bxl-linkedin.svg	809	Resource	Audit

1 - 10 of 1986 Rows 10

12.4.7.2. Sumário executivo listando as falhas de segurança identificadas, informando o número de identificações realizadas e agrupadas por suas severidades, seguindo o padrão CVSS (Common Vulnerability Scoring System);



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## Application: DETRAN DF

Executive Summary

Policy Control

Findings & Recommendations

Mitigated Flaws (0)

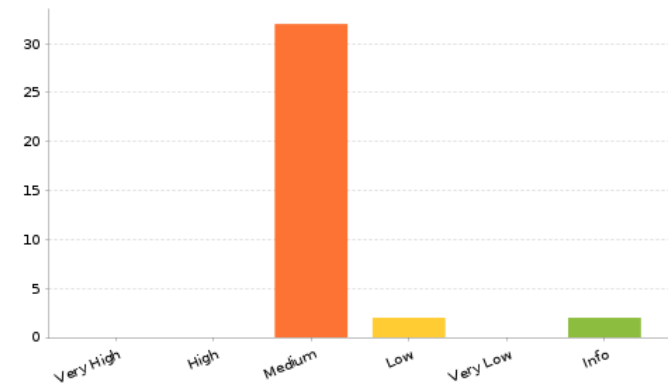
Proposed Mitigated Flaws (0)

← Executive Summary

This report summarizes the security flaws identified in the application using manual penetration testing, automated static and/or automated dynamic security analysis techniques, which is useful for understanding the overall security between applications. The static binary analysis engine models the binary executable into an intermediate representation which is then verified for security flaws using automated security scans. Dynamic analysis uses automated Results are verified by a security technician to ensure the lowest false positive rates in the industry. The result is an accurate list of security flaws for the classes of automated scans applied.

### Flaws by Severity and Scan Type [Help](#)

Severity	Total	Dynamic
Very High	0	0
High	0	0
Medium	32	32
Authentication Issues	4	4
Deployment Configuration	1	1
Encapsulation	1	1
Insecure Dependencies	1	1
Server Configuration	25	25
Low	2	2
Cryptographic Issues	2	2
Very Low	0	0
Information	2	2
Server Configuration	2	2





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12.4.7.3. Exportação do relatório em formato PDF;

The image shows a 'Download Report' dialog box with a close button (X) in the top right corner. Below the title bar, there is a text prompt: 'Choose the type of report that you would like to download.' followed by a red asterisk and the word 'Required'. Below this is a label 'Report Type: \*' followed by a dropdown menu. The dropdown menu is open, showing the following options: 'Select One' (highlighted in blue), 'Customizable Report (PDF)', 'Detailed Veracode Report (PDF)', 'Summary Veracode Report (PDF)', 'Veracode PCI 3.2.1 Report (PDF)', and 'Detailed XML Export (XML)'. The word 'period' is partially visible at the bottom left of the dialog box.

12.4.7.4. Exportação do relatório em formato PDF seguindo os padrões do PCI;





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**Download Report** ✕

Choose the type of report that you would like to download. \* Required

Report Type: \*  ▼

- Select One
- Customizable Report (PDF)
- Detailed Veracode Report (PDF)
- Summary Veracode Report (PDF)
- Veracode PCI 3.2.1 Report (PDF)
- Detailed XML Export (XML)

eriod

12.4.7.5. Exportação dos dados que compõem o relatório em formato XML.

**Download Report** ✕

Choose the type of report that you would like to download. \* Required

Report Type: \*  ▼

- Select One
- Customizable Report (PDF)
- Detailed Veracode Report (PDF)
- Summary Veracode Report (PDF)
- Veracode PCI 3.2.1 Report (PDF)
- Detailed XML Export (XML)

eriod



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#### 12.4.7.6. Relatório de aderência perante a política de segurança atrelada ao perfil da aplicação;

Executive Summary **Policy Control** Findings & Recommendations Mitigated Flaws (0) Proposed Mitigated Flaws

[←](#) Policy Control

This section of the report provides details regarding the application's adherence to the policy assigned to this application. The policy defines the target for security qu

**Policy Name:** Veracode Recommended POV  
**Revision:** 7  
**Description:** Baseada na Very High + SCA COPY, sem o Pentest Manual

**Rules**

Rule Type	Requirement	Findings	Status
Min Analysis Score	90	89	Did not pass
Max Severity	Medium	Flaws found: 32	Did not pass

**Software Composition Analysis Rules**

Rule Type	Requirement	Findings	Status
Disallow Component by License Risk	Medium and Above Not Allowed	0 Components	Passed
Disallow Vulnerabilities by Severity	Informational and Above Not Allowed	0 Components	Passed
Disallow Component Blocklist	Prevent an application from passing policy if blocklisted components are detected	0 Blocklisted	Passed

**Scan Requirements**

Scan Type	Frequency	Last Performed	Status
Static Analysis	Once		Did not pass

**Remediation**

Flaw Severity	Grace Period	Flaws Exceeding	Status
Very High	0	0	Passed
High	0	0	Passed



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12.4.7.7. Estimativa de tempo de desenvolvimento para correção da falha de segurança;

Associated Flaws by CWE ID:

▼ [Cross-Site Request Forgery \(CSRF\) CWE ID 352](#)

Effort to Fix ⓘ  
4 - Simple design error. Requires redesign and up to 5 days to fix.

12.4.7.8. Estimativa de linhas de código que necessitam ser alteradas para correção da falha de segurança;

Associated Flaws by CWE ID:

▼ [Transmission of Private Resources into a New Sphere \('Resource Leak'\) CWE ID 402](#)

Effort to Fix ⓘ  
2 - Implementation error. Fix is approx. 6-50 lines of code. 1 day to fix.

12.4.7.9. Descritivo das falhas de segurança contendo a contextualização da mesma;



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Associated Flaws by CWE ID:

▼ **Transmission of Private Resources into a New Sphere ('Resource Leak'), CWE ID 402**

Effort to Fix ⓘ  
2 - Implementation error. Fix is approx. 6-50 lines of code. 1 day to fix.

Description  
One or more cookies does not have the 'HttpOnly' attribute set. Using this attribute helps to prevent client-side Javascript from accessing the cookie, thereby mitigating one of the most common XSS exploit scenarios.

Recommendations  
Unless the application requires that cookies be accessible to Javascript code, set the 'HttpOnly' attribute when generating cookies.

Attack Values found via Dynamic Scan

Flaw Id	URL	Parameter	Fix By	Reviewer Notes
❌ 10	https://portal.detran.df.gov.br:443/	f5_cspm	26/01/23	

12.4.7.10. Recomendações para realização a correção das falhas de segurança identificadas.

Associated Flaws by CWE ID:

▼ **Transmission of Private Resources into a New Sphere ('Resource Leak'), CWE ID 402**

Effort to Fix ⓘ  
2 - Implementation error. Fix is approx. 6-50 lines of code. 1 day to fix.

Description  
One or more cookies does not have the 'HttpOnly' attribute set. Using this attribute helps to prevent client-side Javascript from accessing the cookie, thereby mitigating one of the most common XSS exploit scenarios.

Recommendations  
Unless the application requires that cookies be accessible to Javascript code, set the 'HttpOnly' attribute when generating cookies.

Attack Values found via Dynamic Scan

Flaw Id	URL	Parameter	Fix By	Reviewer Notes
❌ 10	https://portal.detran.df.gov.br:443/	f5_cspm	26/01/23	

12.4.8. A ferramenta deverá utilizar metodologia de classificação e pontuação dos aplicativos e falhas aderente aos padrões abaixo: **(Itens demonstrados de forma agrupada nas evidências abaixo)**



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12.4.8.1. NIST FIPS Pub. 199; **(Item validado por demonstração devido a massa de testes gerada para o teste não apresentar a falha em questão)**

12.4.8.2. Common Weakness Enumeration (CWE);



12.4.8.3. Common Vulnerability Scoring System (CVSS). **(Item validado por demonstração devido a massa de testes gerada para o teste não apresentar a falha em questão)**

[https://docs.veracode.com/r/review\\_methodology](https://docs.veracode.com/r/review_methodology)

12.4.9. A ferramenta deve categorizar as falhas de segurança identificadas atrelada a sua severidade e baseado com o CVSS (Common Vulnerability Scoring System), incluindo no mínimo as categorizações abaixo: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

12.4.9.1. Muito alto;

12.4.9.2. Alto;

12.4.9.3. Médio;

12.4.9.4. Baixo;

12.4.9.5. Muito baixo;

12.4.9.6. Informativo.



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## Application: DETRAN DF

This report summarizes the security flaws identified in the application using manual penetration testing, automated static and dynamic analysis, and manual testing between applications. The static binary analysis engine models the binary executable into an intermediate representation which is then analyzed. Results are verified by a security technician to ensure the lowest false positive rates in the industry. The result is an accurate

### Flaws by Severity and Scan Type [Help](#)

Severity	Total	Dynamic
Very High	0	0
High	0	0
Medium	32	32
Authentication Issues	4	4
Deployment Configuration	1	1
Encapsulation	1	1
Insecure Dependencies	1	1
Server Configuration	25	25
Low	2	2
Cryptographic Issues	2	2
Very Low	0	0
Information	2	2
Server Configuration	2	2



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12.4.10. A ferramenta deve conter as falhas definidas pelo CWE (Common Weakness Enumeration), tendo as atualizações em pelo menos 90 dias.

### Understanding Veracode and the CWE

Veracode references the Common Weakness Enumeration (CWE) standard to map the flaws found in its static and dynamic scans.

Since its founding, Veracode has reported flaws using the industry standard Common Weakness Enumeration as a taxonomy. The CWE provides a mapping of all known types of software weakness or vulnerability, and provides supplemental information to help developers understand the cause of common weaknesses and how to fix them.

Veracode always uses the latest version of the CWE, and updates to new versions within 90 days of release. This page lists the flaws that Veracode may report in automated static and dynamic scans. When a flaw may be mapped to several CWEs, Veracode generally reports the most general CWE that describes that particular case. For example, Veracode prefers CWE-80 for cross-site scripting over its child CWEs. Veracode updates this list frequently.

[https://docs.veracode.com/r/review\\_scoringmethodology](https://docs.veracode.com/r/review_scoringmethodology)

12.4.11. A ferramenta deverá realizar a identificação de falhas de segurança, considerando, ao menos, as categorias abaixo:

12.4.11.1. Problemas de autenticação;

Authentication Issues	287	Improper Authentication
	352	Cross-Site Request Forgery (CSRF)
	693	Protection Mechanism Failure

12.4.11.2. Problemas de autorização;



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Authorization Issues	99	Improper Control of Resource Identifiers
	272	Least Privilege Violation
	273	Improper Check for Dropped Privileges
	274	Improper Handling of Insufficient Privileges
	282	Improper Ownership Management
	285	Improper Authorization
	346	Origin Validation Error
	350	Reliance on Reverse DNS Resolution for a Security-Critical Action
	639	Authorization Bypass Through User-Controlled Key
	566	Authorization Bypass Through User-Controlled SQL Primary Key
	708	Incorrect Ownership Assignment
	732	Incorrect Permission Assignment for Critical Resource
942	Permissive Cross-domain Policy with Untrusted Domains	

12.4.11.3. Injeção de código;





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Code Injection	74	Improper Neutralization of Special Elements in Output Used by a Downstream Component (Injection)
	91	XML Injection (Blind XPath Injection)
	94	Improper Control of Generation of Code
	95	Improper Neutralization of Directives in Dynamically Evaluated Code ('Eval Injection')
	98	Improper Control of Filename for Include/Require Statement in PHP Program (PHP File Inclusion)
	185	Incorrect Regular Expression
	830	Inclusion of Web Functionality from an Untrusted Source

12.4.11.4. Injeção de comandos ou parâmetros;

Command or Argument Injection	77	Improper Neutralization of Special Elements used in a Command (Command Injection)
	78	Improper Neutralization of Special Elements used in an OS Command (OS Command Injection)
	88	Argument Injection or Modification



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#### 12.4.11.5. Gerenciamento de credenciais;

Credentials Management	256	Plaintext Storage of a Password
	259	Use of Hard-coded Password
	522	Insufficiently Protected Credentials
	798	Use of Hard-code Credentials

#### 12.4.11.6. Injeção de CRLF (Carriage Return e Line Feed);

CRLF Injection	93	Improper Neutralization of CRLF Sequences (CRLF Injection)
	113	Improper Neutralization of CRLF Sequences in HTTP Headers (HTTP Response Splitting)
	117	Improper Output Neutralization for Logs

#### 12.4.11.7. Cross-Site Scripting (XSS);



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Cross-Site Scripting (XSS)	79	Improper Neutralization of Input During Web Page Generation (Cross-site Scripting)
	80	Improper Neutralization of Script-Related HTML Tags in a Web Page (Basic XSS)
	83	Improper Neutralization of Script in Attributes in a Web Page
	86	Improper Neutralization of Invalid Characters in Identifiers in Web Pages

12.4.11.8. Problemas criptográficos;



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Cryptographic Issues	261	Weak Cryptography for Passwords
	295	Improper Certificate Validation
	296	Improper Following of Chain of Trust for Certificate Validation
	297	Improper Validation of Host-specific Certificate Data
	298	Improper Validation of Certificate Expiration
	299	Improper Check for Certificate Revocation
	311	Missing Encryption of Sensitive Data
	312	Cleartext Storage of Sensitive Information
	313	Plaintext Storage in a File or on Disk
	316	Plaintext Storage in Memory
	319	Cleartext Transmission of Sensitive Information
	321	Use of Hard-coded Cryptographic Key
	326	Inadequate Encryption Strength
	327	Use of a Broken or Risky Cryptographic Algorithm
	328	Reversible One-Way Hash
	329	Not Using a Random IV with CBC Mode
	330	Use of Insufficiently Random Values
	331	Insufficient Entropy
	338	Use of Cryptographically Weak Pseudo-Random Number Generator
	347	Improper Verification of Cryptographic Signature
354	Improper Validation of Integrity Check Value	
547	Use of Hard-coded, Security-relevant Constants	
614	Sensitive Cookie in HTTPS Session Without Secure Attribute	
760	Use of a One-Way Hash with a Predictable Salt	
780	Use of RSA with Optimal Asymmetric Encryption Padding	
916	Use of Password Hash With Insufficient Computational Effort	



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Deployment Configuration	402	Transmission of Private Resources into a New Sphere (Resource Leak)
	668	Exposure of Resource to Wrong Sphere
	926	Improper Export of Android Application Components

12.4.11.10. Directory traversal;

Directory Traversal	22	Improper Limitation of a Pathname to a Restricted Directory (Path Traversal)
	35	Path Traversal
	73	External Control of File Name or Path

12.4.11.11. Vazamento de informações;



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Information Leakage	200	Information Exposure
	201	Insertion of Sensitive Information Into Sent Data
	209	Information Exposure Through an Error Message
	215	Information Exposure Through Debug Information
	359	Exposure of Private Information (Privacy Violation)
	497	Exposure of System Data to an Unauthorized Control Sphere
	526	Information Exposure Through Environmental Variables
	530	Exposure of Backup File to an Unauthorized Control Sphere
	532	Insertion of Sensitive Information into Log File
	538	File and Directory Information Exposure
	548	Information Exposure Through Directory Listing
	611	Information Exposure Through XML External Entity Reference
	615	Information Exposure Through Comments
	665	Improper Initialization
918	Server-side Request Forgery	

12.4.11.12. Falta de validação da entrada de dados;



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Insufficient Input Validation	20	Improper Input Validation
	90	Improper Neutralization of Special Elements Used in an LDAP Query (LDAP Injection)
	103	Struts: Incomplete validate() Method Definition
	104	Struts: Form Bean Does Not Extend Validation Class
	112	Missing XML Validation
	115	Misinterpretation of Input
	183	Permissive List of Allowed Inputs
	345	Insufficient Verification of Data Authenticity
	434	Unrestricted Upload of File with Dangerous Type
	470	Use of Externally-Controlled Input to Select Classes or Code (Unsafe Reflection)
	472	External Control of Assumed-Immutable Web Parameter
	601	URL Redirection to Untrusted Site (Open Redirect)
	618	Exposed Unsafe ActiveX Method
	915	Improperly Controlled Modification of Dynamically-Determined Object Attributes
	1174	ASP.NET Misconfiguration: Improper Model Validation
1236	Improper Neutralization of Formula Elements in a CSV File	

12.4.11.13. Injeção de comandos no sistema operacional;



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Code Injection	74	Improper Neutralization of Special Elements in Output Used by a Downstream Component (Injection)
	91	XML Injection (Blind XPath Injection)
	94	Improper Control of Generation of Code
	95	Improper Neutralization of Directives in Dynamically Evaluated Code ('Eval Injection')
	98	Improper Control of Filename for Include/Require Statement in PHP Program (PHP File Inclusion)
	185	Incorrect Regular Expression
	830	Inclusion of Web Functionality from an Untrusted Source

12.4.11.14. Configurações do servidor;





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Server Configuration	16	Configuration
	441	Unintended Proxy or Intermediary (Confused Deputy)
	642	External Control of Critical State Data
	757	Selection of Less-Secure Algorithm During Negotiation (Algorithm Downgrade)

12.4.11.15. Fixação de sessões;

Session Fixation	384	Session Fixation
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12.4.11.16. Injeção de SQL.

SQL Injection	89	Improper Neutralization of Special Elements used in an SQL Command (SQL Injection)
	564	SQL Injection: Hibernate
	943	Improper Neutralization of Special Elements in Data Query Logic



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12.4.12. A ferramenta deverá realizar a identificação de falhas de segurança, considerando, ao menos, os itens abaixo conforme o Common Weakness Enumeration (CWE):

12.4.12.1. CWE 287 - Improper Authentication;

287	Improper Authentication
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12.4.12.2. CWE 352 - Cross-Site Request Forgery (CSRF);

352	Cross-Site Request Forgery (CSRF)
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12.4.12.3. CWE 693 - Clickjacking/Content Security Policy insecure unsafe-inline directive used/Content Security Policy insecure unsafe-eval directive used;

693	Protection Mechanism Failure
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12.4.12.4. CWE 285 - Improper Authorization;

285	Improper Authorization
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12.4.12.5. CWE 98 - Improper Control of Filename for Include/Require Statement in PHP Program (PHP File Inclusion);

98	Improper Control of Filename for Include/Require Statement in PHP Program (PHP File Inclusion)
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12.4.12.6. CWE 830 - Inclusion of Web Functionality from an Untrusted Source;

830	Inclusion of Web Functionality from an Untrusted Source
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12.4.12.7. CWE 78 - Improper Neutralization of Special Elements used in an OS Command (OS Command Injection);

78	Improper Neutralization of Special Elements used in an OS Command (OS Command Injection)
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12.4.12.8. CWE 259 - Use of Hard-coded Password;

259	Use of Hard-coded Password
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12.4.12.9. CWE 522 - Insufficiently Protected Credentials;

522	Insufficiently Protected Credentials
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12.4.12.10. CWE 113 - Improper Neutralization of CRLF Sequences in HTTP Headers (HTTP Response Splitting);

113	Improper Neutralization of CRLF Sequences in HTTP Headers (HTTP Response Splitting)
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12.4.12.11. CWE 79 - Improper Neutralization of Input During Web Page Generation (Cross-site Scripting);

79	Improper Neutralization of Input During Web Page Generation (Cross-site Scripting)
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12.4.12.12. CWE 80 - Improper Neutralization of Script-Related HTML Tags in a Web Page (Basic XSS);

80	Improper Neutralization of Script-Related HTML Tags in a Web Page (Basic XSS)
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12.4.12.13. CWE 83 - Improper Neutralization of Script in Attributes in a Web Page;

83	Improper Neutralization of Script in Attributes in a Web Page
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12.4.12.14. CWE 296 - Improper Following of Chain of Trust for Certificate Validation;

296	Improper Following of Chain of Trust for Certificate Validation
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12.4.12.15. CWE 297 - Improper Validation of Host-specific Certificate Data;

297	Improper Validation of Host-specific Certificate Data
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12.4.12.16. CWE 298 - Improper Validation of Certificate Expiration;

297	Improper Validation of Host-specific Certificate Data
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12.4.12.17. CWE 321 - Use of Hard-coded Cryptographic Key;

321	Use of Hard-coded Cryptographic Key
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12.4.12.18. CWE 326 - Inadequate Encryption Strength;

326	Inadequate Encryption Strength
-----	--------------------------------

12.4.12.19. CWE 327 - Use of a Broken or Risky Cryptographic Algorithm;

327	Use of a Broken or Risky Cryptographic Algorithm
-----	--

12.4.12.20. CWE 614 - Sensitive Cookie in HTTPS Session Without Secure Attribute;

614	Sensitive Cookie in HTTPS Session Without Secure Attribute
-----	--

12.4.12.21. CWE 402 - Transmission of Private Resources into a New Sphere (Resource Leak);



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402	Transmission of Private Resources into a New Sphere (Resource Leak)
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12.4.12.22. CWE 668 - Exposure of Resource to Wrong Sphere;

668	Exposure of Resource to Wrong Sphere
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12.4.12.23. CWE 22 - Improper Limitation of a Pathname to a Restricted Directory (Path Traversal);

22	Improper Limitation of a Pathname to a Restricted Directory (Path Traversal)
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12.4.12.24. CWE 200 - Information Exposure;

200	Information Exposure
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12.4.12.25. CWE 209 - Information Exposure Through an Error Message;



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209	Information Exposure Through an Error Message
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12.4.12.26. CWE 215 - Information Exposure Through Debug Information;

215	Information Exposure Through Debug Information
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12.4.12.27. CWE 526 - Information Exposure Through Environmental Variables;

526	Information Exposure Through Environmental Variables
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12.4.12.28. CWE 530 - Exposure of Backup File to an Unauthorized Control Sphere;

530	Exposure of Backup File to an Unauthorized Control Sphere
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12.4.12.29. CWE 538 - File and Directory Information Exposure;





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538	File and Directory Information Exposure
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12.4.12.30. CWE 548 - Information Exposure Through Directory Listing;

548	Information Exposure Through Directory Listing
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12.4.12.31. CWE 434 - Unrestricted Upload of File with Dangerous Type;

434	Unrestricted Upload of File with Dangerous Type
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12.4.12.32. CWE 601 - URL Redirection to Untrusted Site (Open Redirect);

601	URL Redirection to Untrusted Site (Open Redirect)
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12.4.12.33. CWE 78 - Improper Neutralization of Special Elements used in an OS Command (OS Command Injection);



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78	Improper Neutralization of Special Elements used in an OS Command (OS Command Injection)
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12.4.12.34. CWE 16 - Configuration;

16	Configuration
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12.4.12.35. CWE 642 - External Control of Critical State Data;

642	External Control of Critical State Data
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12.4.12.36. CWE 757 - Selection of Less-Secure Algorithm During Negotiation (Algorithm Downgrade);

757	Selection of Less-Secure Algorithm During Negotiation (Algorithm Downgrade)
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12.4.12.37. CWE 384 - Session Fixation;



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384	Session Fixation
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12.4.12.38. CWE 89 - Improper Neutralization of Special Elements used in an SQL Command (SQL Injection).

89	Improper Neutralization of Special Elements used in an SQL Command (SQL Injection)
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12.4.13. A ferramenta, por utilizar solução SaaS, deve possuir mecanismos para garantir segurança. Deve conter ao menos: **(Itens demonstrados de forma agrupada nas evidências abaixo)**

12.4.13.1. Comunicação segura através de TLS 1.2 ou mais recente, validando a procedência do certificado e recusando comunicação não confiável;

### Using TLS with Veracode Integrations

For security reasons, Veracode APIs block connections that use TLS 1.0 or 1.1. This section explains how to avoid issues when connecting to Veracode using TLS.

Veracode no longer supports integrations for Team Foundation Server 2010 and Visual Studio 2010, which do not support TLS 1.2. [About Veracode Static Analysis](#) continues to support applications compiled with Visual Studio 2003 and later.

[Using TLS with Veracode Integrations • Veracode Integrations Security and Troubleshooting • Reader](#)



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12.4.13.2. Possuir seguir e ser aprovada em auditoria quanto a SOC 2, SOC 3 e SSAE 16 tipo II SOC 1;

[Security](#) | [Certifications](#) | [Veracode](#)

[Microsoft Word - Veracode, Inc.docx](#)

12.4.13.3. Governança da Segurança da Informação;

[Security](#) | [Certifications](#) | [Veracode](#)

[Microsoft Word - Veracode, Inc.docx](#)

12.4.13.4. Avaliação e Tratamento de Riscos;



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We are responsible for designing, implementing, operating, and maintaining effective controls within Veracode Inc.'s (Veracode) Online Security Platform (system) throughout the period April 1, 2021 to March 31, 2022, to provide reasonable assurance that Veracode's service commitments and system requirements relevant to security, availability, and confidentiality were achieved.

We are responsible for:

- Identifying the system and describing the boundaries of the system (description), which are presented in Attachment A;
- Identifying our principal service commitments and system requirements, which are presented in Attachment B;
- Identifying the risks that would threaten the achievement of its principal service commitments and service requirements that are the objectives of our system;
- Identifying, designing, implementing, operating, and monitoring effective controls over the system to mitigate risks that threaten the achievement of the principal service commitments and system requirement; and
- Selecting the trust services categories, presented in Attachment C, that are the basis of our assertion.

[Documentação sobre as questões de governança da Veracode](#)

12.4.13.5. Política de segurança;

**Central Policy Manager**

The Central Policy Manager enables enterprises to define and enforce uniform security policies across their applications, including third-party software (such as outsourced applications and third-party libraries), business units, and development teams in their organizations.

[Documentação sobre as questões de governança da Veracode](#)



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#### 12.4.13.6. Organização da Segurança da Informação;

~~Companies fix more than 7.1 million security flaws.~~

**VERACODE ONLINE SECURITY PLATFORM OVERVIEW  
(BOUNDARIES OF THE SYSTEM AND SOFTWARE)**

The VOSP is designed to assist organizations in verifying an application's security state and determining acceptable levels of risk before the software is deployed for business use. It resides on Veracode's private cloud and provides a centralized way for customers to secure web, mobile and third-party applications across their global infrastructure throughout the system lifecycle.

The traditional, on-premises approach to application security may not adequately address pervasive application-layer risk across global enterprises. Unnecessary complexity for rapidly moving development teams and a decentralized model present challenges to consistently apply policies, reporting and metrics.

The Veracode cloud-based approach is fundamentally different. It is simpler and more scalable to help systematically reduce application-layer risk across Veracode's customers' entire global software infrastructure.

The VOSP is comprised of the following characteristics:

***Central Policy Manager***

The Central Policy Manager enables enterprises to define and enforce uniform security policies across their applications, including third-party software (such as outsourced applications and third-party libraries), business units, and development teams in their organizations.

[Documentação sobre as questões de governança da Veracode](#)

#### 12.4.13.7. Gestão de ativos;



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***Infrastructure***

The technology infrastructure supporting the VOSP resides primarily within data center facilities hosted by third-party service provider AWS, within US-East availability zone, with additional supporting infrastructure within a co-location data center facility owned by CoreSite Realty Corporation (CoreSite) in Somerville, Massachusetts. As part of Veracode's internal controls, Veracode management has designed and implemented policies and procedures that monitor activities performed by AWS and CoreSite, including physical security, logical security and change management.

[Documentação sobre as questões de governança da Veracode](#)

12.4.13.8. Segurança de Recursos Humanos;



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### *People*

The following functional groups within Veracode are responsible for supporting the VOSP:

- **Engineering:** This group is responsible for the design, development, quality assurance (QA), and performance testing of the VOSP.
- **Production Operations:** This group is responsible for the overall production environment and infrastructure, oversight of production software deployment, and coordination of the production engineering activity.
- **Services (Customer Success and Support):** These groups are responsible for customer relationship management, satisfaction, and support, along with technical account management and user account management.
- **Information Technology (IT):** This group is responsible for the monitoring and maintenance of the corporate IT infrastructure, Development, QA, and Staging environments as well as the infrastructure supporting the System.
- **Information Security Oversight Committee (ISOC):** The ISOC serves as Veracode's overall governing Information Security body, responsible for providing strategic direction and oversight of the information security program, reviewing, and approving changes, and monitoring ongoing effectiveness of security policies, procedures, and processes applicable to the VOSP.
- **Information Security Assessment Team (ISAT):** The ISAT is a subset of the ISOC and is primarily responsible for coordinating and executing incident response protocols, ensuring compliance with current security procedures, and developing changes to existing security and confidentiality policies, procedures, and processes.
- **Product Security Incident Response Team (PSIRT):** The PSIRT is a tactical cross-functional product team who assesses immediate and emerging threats to the VOSP. The PSIRT develops direct tactical response plans (countermeasures) to secure the VOSP.
- **Production Engineering:** This group provides management, monitoring, and maintenance of all the production hardware, operating systems, network infrastructure, and database components of the VOSP.





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12.4.13.9. Segurança Física e Ambiental;

***Infrastructure***

The technology infrastructure supporting the VOSP resides primarily within data center facilities hosted by third-party service provider AWS, within US-East availability zone, with additional supporting infrastructure within a co-location data center facility owned by CoreSite Realty Corporation (CoreSite) in Somerville, Massachusetts. As part of Veracode's internal controls, Veracode management has designed and implemented policies and procedures that monitor activities performed by AWS and CoreSite, including physical security, logical security and change management.

[Documentação sobre as questões de governança da Veracode](#)

12.4.13.10. Gestão de Comunicações e Operações;



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***Procedures***

Veracode has documented policies and procedures that support the management, operations, monitoring, and controls over the VOSP. Specific examples of relevant policies and procedures include, but are not limited to, the following:

- Policy management and communication
- System security and administration
- Computer and network operations
- Service application management and administration
- Backup management and processing
- Monitoring and event correlation
- Vulnerability management
- Incident response
- Change management, including release to production processes

Policies are made available to employees through the Veracode intranet site, reviewed annually by the ISOC, and updated where required.

[Documentação sobre as questões de governança da Veracode](#)

12.4.13.11. Controle de acesso.



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***Infrastructure***

The technology infrastructure supporting the VOSP resides primarily within data center facilities hosted by third-party service provider AWS, within US-East availability zone, with additional supporting infrastructure within a co-location data center facility owned by CoreSite Realty Corporation (CoreSite) in Somerville, Massachusetts. As part of Veracode's internal controls, Veracode management has designed and implemented policies and procedures that monitor activities performed by AWS and CoreSite, including physical security, logical security and change management.

[Documentação sobre as questões de governança da Veracode](#)

12.4.14. Deve permitir integração em esteiras de desenvolvimento, permitindo a automatização do processo de iniciar análise DAST, possuindo integração com Jenkins, bem como ferramenta de linha de comando. Por meio das APIs é possível fazer o acionamento do DAST, permitindo iniciar e gerenciar análises, e receber os resultados. Podemos utilizar esse conjunto de APIs no Jenkins por meio de CLI ou tarefas que permitam a utilização de APIs, exemplo de como fazer o acionamento utilizando o CURL do Linux dentro de uma task de CLI no Jenkins:



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```
# Configuracoes de uso
VERACODE_ID=""
VERACODE_KEY=""

# Funcao para autenticar
aut_Veracode () {
    # Entrada de dados para a criacao do HMAC Header
    URLPATH=$1
    METHOD=$2

    # Faz a criacao
    NONCE="$(cat /dev/random | xxd -p | head -c 32)"
    TS="$(date +%s%N)/1000)"
    encryptedNonce=$(echo "$NONCE" | xxd -r -p | openssl dgst -sha256 -mac HMAC -macopt hexkey:$VERACODE_KEY | cut -d ' ' -f 2)
    encryptedTimestamp=$(echo -n "$TS" | openssl dgst -sha256 -mac HMAC -macopt hexkey:$encryptedNonce | cut -d ' ' -f 2)
    signingKey=$(echo -n "vcode_request_version_1" | openssl dgst -sha256 -mac HMAC -macopt hexkey:$encryptedTimestamp | cut -d ' ' -f 2)
    DATA="id=$VERACODE_ID&host=api.veracode.com&url=$URLPATH&method=$METHOD"
    signature=$(echo -n "$DATA" | openssl dgst -sha256 -mac HMAC -macopt hexkey:$signingKey | cut -d ' ' -f 2)
    VERACODE_AUTH_HEADER="VERACODE-HMAC-SHA-256 id=$VERACODE_ID,ts=$TS,nonce=$NONCE,sig=$signature"
}

# Inicia o DAST
URLPATH=/was/configservice/v1/analyses
METHOD=POST
aut_Veracode $URLPATH $METHOD
curl -s -v -X $METHOD -H "Authorization: $VERACODE_AUTH_HEADER" "https://api.veracode.com$URLPATH" "Content-Type: application/json" -d "config.json"
```

Exemplo de utilização via HMAC: `http --auth-type=veracode_hmac POST "https://api.veracode.com/was/configservice/v1/analyses" < input.json`



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## Create a Dynamic Analysis of a Single URL with the REST API

You can use the Dynamic Analysis API to create an analysis of a single URL.

### To complete this task:

1. Enter values for the `scan_config_request` and `schedule` properties in the JSON file.
2. Run this command:

```
http --auth-type=veracode_hmac POST "https://api.veracode.com/was/configservice/v1/analyses" < input.json
```

This is an example of a Dynamic Analysis for one URL that runs immediately for one day:

```
{
  "name": "Name-of-Your-Dynamic-Analysis",
  "scans": [
    {
      "scan_config_request": {
        "target_url": {
          "url": "http://www.example.com"
        }
      }
    }
  ],
  "schedule": {
    "duration": {
      "length": 1,
      "unit": "DAY"
    },
    "scheduled": true,
    "now": true
  }
}
```



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12.4.15. A ferramenta deve dispor de mecanismos para integração com plataformas de controle de defeitos (bug tracking), suportando:

12.4.15.1. Jira;

## Veracode Integration for Jira

You can use the Veracode Integration for Jira to import to Jira Server and to Jira Data Center security flaws that Veracode identifies in your application.

Veracode Integration for Jira manages the import of security findings from Veracode and creates issues in Jira for each imported findings. Veracode also provides the [Veracode Integration for Jira Cloud](#), which provides the same functionality for Jira Cloud.

[https://docs.veracode.com/r/c\\_integration\\_ticketing](https://docs.veracode.com/r/c_integration_ticketing)

12.4.15.2. Jira Cloud;

## Veracode Integration for Jira Cloud

You can use the Veracode Integration for Jira Cloud to import security flaws that Veracode identifies in your application to Jira Cloud.

The Veracode Integration for Jira Cloud manages the import of security flaws from Veracode and creates issues in Jira Cloud for each imported flaw. You can also use the [Veracode Integration for Jira](#), which provides the same functionality for Jira Server and Jira Data Center.

[https://docs.veracode.com/r/c\\_integration\\_ticketing](https://docs.veracode.com/r/c_integration_ticketing)



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12.4.15.3. Visual Studio Team Services;

## Veracode Azure DevOps Extension

Veracode provides an extension for Azure DevOps and Team Foundation Server (TFS). You can use the extension to automatically import flaws and vulnerabilities as work items. Veracode discovers flaws during [Static Analysis](#) scans and vulnerabilities during [Dynamic Analysis](#) or [Software Composition Analysis](#) (SCA) scans.

[https://docs.veracode.com/r/c\\_integration\\_ticketing](https://docs.veracode.com/r/c_integration_ticketing)

12.4.15.4. Team Foundation Server (TFS);

## Veracode Azure DevOps Extension

Veracode provides an extension for Azure DevOps and Team Foundation Server (TFS). You can use the extension to automatically import flaws and vulnerabilities as work items. Veracode discovers flaws during [Static Analysis](#) scans and vulnerabilities during [Dynamic Analysis](#) or [Software Composition Analysis](#) (SCA) scans.

[https://docs.veracode.com/r/c\\_integration\\_ticketing](https://docs.veracode.com/r/c_integration_ticketing)

12.4.15.5. BugZilla.



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## Veracode for Bugzilla

Veracode provides an integration for the Bugzilla defect tracking system. You can use the integration to import findings from Veracode into Bugzilla. You can then manage the findings as defects in Bugzilla. This integration is based on standard Bugzilla configuration settings for priority, severity, and other values.

[https://docs.veracode.com/r/c\\_integration\\_ticketing](https://docs.veracode.com/r/c_integration_ticketing)

12.4.16. A ferramenta deve disponibilizar API para execução de operações automatizadas na ferramenta/plataforma, permitindo:

12.4.16.1. Criar, editar e deletar aplicações;

Criar:





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### Creating an Application with the REST API

Use this command to create an application:

```
http --auth-type=veracode_hmac POST  
"https://api.veracode.com/appsec/v1/applications" < input.json
```

To define only the required fields in the application, include a payload like this example:

```
{  
  "profile": {  
    "name": "Applications REST API Example",  
    "business_unit": {  
      "guid": "08w93dm6-b5gf-4259-a895-39e7d933956k"  
    },  
    "policies": [  
      {  
        "guid": "1wg6dc84-76kk-5467-a5t2-c5885277jf1p"  
      }  
    ],  
    "business_criticality": "HIGH"  
  }  
}
```



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Editar:

### Updating an Application with the REST API

Use this command to update an application:

```
http --auth-type=veracode_hmac PUT "https://api.veracode.com/appsec/v1/applications/{guid}" < input.json
```

Include a payload that defines the updated properties. For example:

**Note:** When updating applications with this API, all properties are required.

```
{
  "profile": {
    "name": "Applications REST API 9.5",
    "tags": "demo, restapi",
    "business_unit": {
      "guid": "{business_unit_guid}"
    },
  },
  "business_owners": [],
  "archer_app_name": null,
  "policies": [
    {
      "guid": "{policy_guid}",
      "is_default": true
    }
  ],
  "teams": [
    {
      "guid": "{team_guid}"
    }
  ],
  "custom_fields": [
    {
      "name": "my_custom_field",
      "value": "my_custom_value"
    }
  ],
  "description": null,
  "business_criticality": "HIGH"
}
```



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Deletar:

Deleting an Application with the REST API 📄 🗑️ 🗨️

Use this command to delete an application:

```
http --auth-type=veracode_hmac DELETE  
"https://api.veracode.com/appsec/v1/applications/{applicationGuid}"
```

A GUID is the numeric ID, separated with hyphens, for the target application. For example: 7336556f-9ef2-4a1c-b536-be8608822db6.

12.4.16.2. Criação e envio de tarefas de verificação DAST;



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## Create a Dynamic Analysis of a Single URL with the REST API

You can use the Dynamic Analysis API to create an analysis of a single URL.

### To complete this task:

1. Enter values for the `scan_config_request` and `schedule` properties in the JSON file.
2. Run this command:

```
http --auth-type=veracode_hmac POST "https://api.veracode.com/was/configservice/v1/analyses" < input.json
```

This is an example of a Dynamic Analysis for one URL that runs immediately for one day:




```
{
  "name": "Name-of-Your-Dynamic-Analysis",
  "scans": [
    {
      "scan_config_request": {
        "target_url": {
          "url": "http://www.example.com"
        }
      }
    }
  ],
  "schedule": {
    "duration": {
      "length": 1,
      "unit": "DAY"
    },
    "scheduled": true,
    "now": true
  }
}
```



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#### 12.4.16.3. Criação, edição e deleção de times de desenvolvimento;

Creating a Team with the Identity API   

This use case scenario provides the Identity REST API command for creating a [team](#).

Use this command to create a team:

```
http --auth-type=veracode_hmac POST "https://api.veracode.com/api/authn/v2/teams" < input.json
```

The API passes the JSON file that you populate with the necessary values as shown in this example payload:

```
{  
  "team_name": "Physical Penetration Testing"  
}
```



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### Updating a Team with the Identity API

This use case scenario provides the Identity REST API command and payload for changing the name of a [team](#).

Use this command to change the name of a team:

```
http --auth-type=veracode_hmac PUT "https://api.veracode.com/api/authn/v2/teams/{teamId}?partial=true" < input.json
```

`teamId` is the numeric ID, separated with hyphens, for the target team. For example: 7336556f-9ef2-4a1c-b536-be8608822db6.

The API passes the JSON file that you populate with the necessary values as shown in this example payload:

```
{  
  "team_name": "Physical Penetration Testing"  
}
```

### Deleting a Team with the Identity API

This use case scenario provides the Identity REST API command for deleting a [team](#).

Use this command to delete a team:

```
http --auth-type=veracode_hmac DELETE "https://api.veracode.com/api/authn/v2/teams/{teamId}"
```

`teamId` is the numeric ID, separated with hyphens, for the target object. For example: 7336556f-9ef2-4a1c-b536-be8608822db6.

12.4.16.4. Listagem dos resultados das verificações DAST.



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### Generating a Summary Report with the REST API

Use this command to generate a [Summary Report](#) for an application:

```
http --auth-type=veracode_hmac "https://api.veracode.com/appsec/v2/applications/{application_guid}/summary_report"
```

Use this command to generate a Summary Report for a [development sandbox](#):

```
http --auth-type=veracode_hmac "https://api.veracode.com/appsec/v2/applications/{application_guid}/summary_report?context={sandbox_guid}"
```

You can use the [Applications API](#) to get the GUID for an [application](#) or [development sandbox](#).

12.4.17. A ferramenta deve permitir que desenvolvedores tenham acesso as falhas de segurança identificadas, contendo a contextualização da falha, local onde a falha foi identificada (URL, parâmetros e resposta do servidor), bem como as recomendações de correção.



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## Application: DETRAN DF

Scan: Static | Dynamic Analysis: <https://portal.detransan....> ([Links Report](#)) [Schedule a Consultation](#)

### Inclusion of Functionality from Untrusted Control Sphere [CWE ID: 829](#)

**Flaw URL:** <https://portal.detransan.df.gov.br/>  
**Method:** GET  
**Protocol:** Https

[Details](#) [Request/Response](#)

**Details:**

**Description**  
The target web page does not specify Content-Security-Policy. While lack of Content-Security-Policy on the website does not represent a security risk by itself, a strict Content-Security-Policy may serve as an additional layer of defense. Content-Security-Policy (CSP) helps to protect from UI redressing attacks, such as "Clickjacking".

**Additional Resources:** [CWE](#)

**Recommendations**  
Consider implementing strict Content-Security-Policy by setting the Content-Security-Policy header for each page response from the website. It is recommended to move all scripts to trusted locations and specify the script-src directive (number used once) or nonce to ensure only trusted scripts are executed.

Flaws: 36 of 36

[All 36 Flaws](#) [0 Flaws](#) Search: ID = # [Apply](#) [Clear](#) [Select Action...](#) [Go](#) [?](#)

ID	Sev	CWE ID & Name	Vuln Parameter
1	Medium	<a href="#">829</a> Inclusion of Functionality from Untrusted Control Sphere	-

Number of Modules Affected: 1

12.4.18. A ferramenta de análise deverá realizar autenticação na aplicação web que está sendo analisada, suportando as seguintes formas de autenticação:

12.4.18.1. Não autenticado;





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#### Authentication

If this URL requires authentication, provide credentials so Veracode can login and perform the scan.

Authentication required:  Not required  
 Required

12.4.18.2. Autenticação básica do HTTP;

#### Basic Authentication (Browser Generated) ?

Use this method for username and password logins that a browser generates. You can use this method alone or in combination with the Auto-Login or Login Script methods.

Username: \*

*Username can contain a domain with backslash, e.g. VERACODE\ripley*

Password: \*

Domain:

12.4.18.3. Autenticação baseada em certificados de cliente em formato PKCS12;



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**Client Certificate**

Use this method for logins that require a certificate for authentication. The certificate must be PFX or P12 file type.

Certification: \*  Nenhum arquivo escolhido  
5 MB Maximum

Password: \*

12.4.18.4. Identificar automaticamente formulários de autenticação e realizar a autenticação com base em usuário e senha previamente definidos.

**Auto Login** [?](#)

Use this method for most applications, including simple login forms that have a username, password, and login button. Auto-Login also works for browser-generated logins, such as, Basic Authentication and NTLMv2. For NTLMv2, you can include the Netbios domain separated from the username with a backslash, for example, DOMAIN\username.

Username: \*   
*Username can contain a domain with backslash, e.g. VERACODE\ripley*

Password: \*

12.4.19. Importação de um roteiro de autenticação com base no Selenium IDE, onde o motor de análise repetirá o procedimento de autenticação, preenchendo formulários de autenticação e alterando opções/elementos da página de autenticação.



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**Login Script** [?](#)

Use this method for multi-step login sequences that contain one or more authentication methods, such as username, password, and PIN.

1. Record the script(s) using [Selenium IDE](#) and save in SIDE or HTML format. Watch [How to Record a Login Script](#) and view [Selenium commands supported in Dynamic Analysis](#).

2. Upload the login script.

Login Script: \*  Nenhum arquivo escolhido

*5 MB Maximum*

▶ **Optional logout script**