vFunction

vFunction 4.0.0 Release Notes

Key Additions

- **A New Lifecycle for Architecture as Code for Distributed Architectures**

  Architects can now use vFunction to compare C4 diagrams with the actual application architecture, request changes, generate updated C4 diagrams and more. Learn More.

- **Architecture Audit Log**

  A new audit log, to log decisions made by architects on the vFunction system, adds transparency and traceability over generated TODOs and target architectures.

- **Create JIRA Tickets from TODOs**

  Added the ability to create JIRA tickets directly from the vFunction TODO Dashboard. Learn More.

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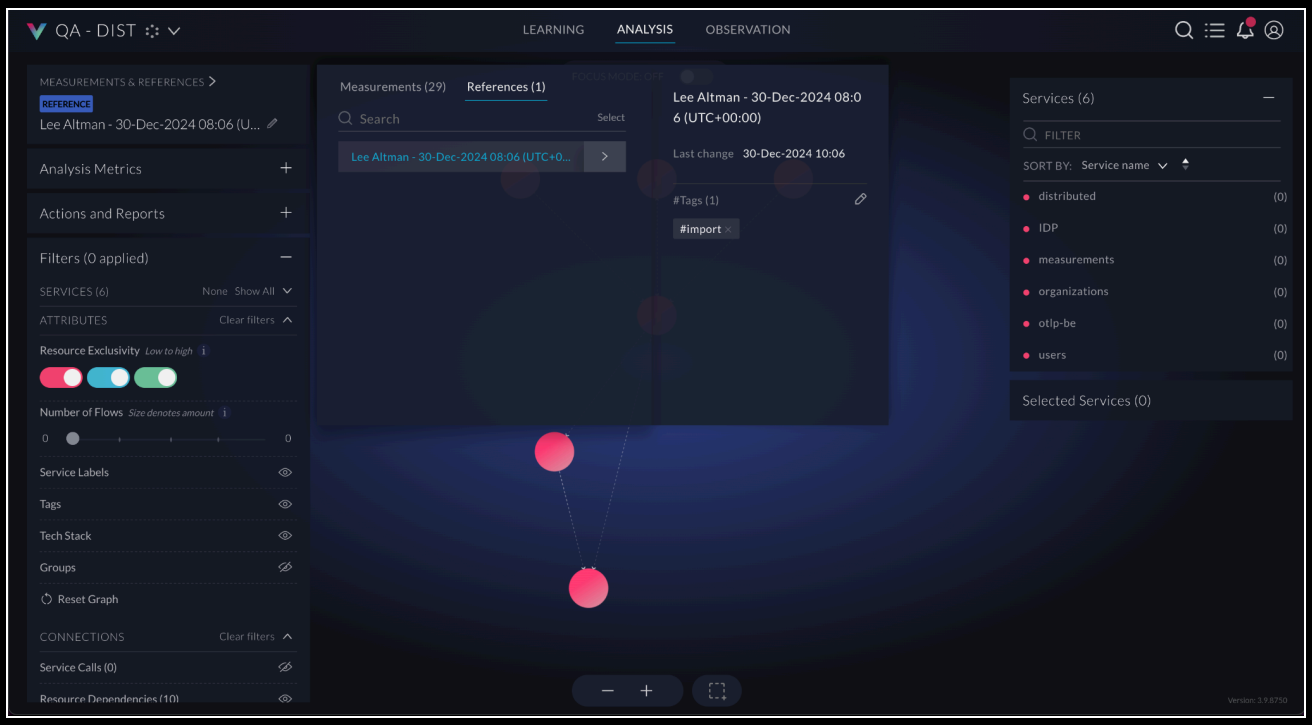
New Lifecycle for Architecture as Code

Import and Export C4 Container Diagrams

Users can export a measurement generated based on OTEL data as a C4 Container diagram. These diagrams can be edited as code, and imported back to vFunction to iterate on architectural planning, generating prescriptive TODOs for engineers to change the architecture to whatever was planned.

Users can also import their existing diagrams to see the difference between existing and documented architectures, and can automatically generate documentation required for compliance.

Uploaded diagrams create a Reference Architecture visible in the Measurements list. Users can mark a reference as the "Latest Reference", and differences between the latest reference and actual architecture generate actionable TODOs.



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Grouping Services

Grouping services is supported for grouping services/containers with attributes such as name, tags, and annotations. These tags can be imported from C4 diagrams, and can be used in Architecture Rules to apply standards and patterns and to manage architectural drift.

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Distributed Application Improvements

- **Errors in Flows**

  Sequence diagrams now display flows that resulted in errors, and are categorized as green (OK) or red (Error), with users able to toggle between them and see the number of calls and errors for each flow. Users can see the entire sequence that resulted in an error.
  Error rates, calculated and displayed as percentages, with flows above 10% error rate highlighted. Users can sort flows based on error rates.

- **Flow Performance Measuring**

  Added the average performance and 95th percentile performance for each flow along with the ability to sort flows by performance. Users can sort flows based on these stats.

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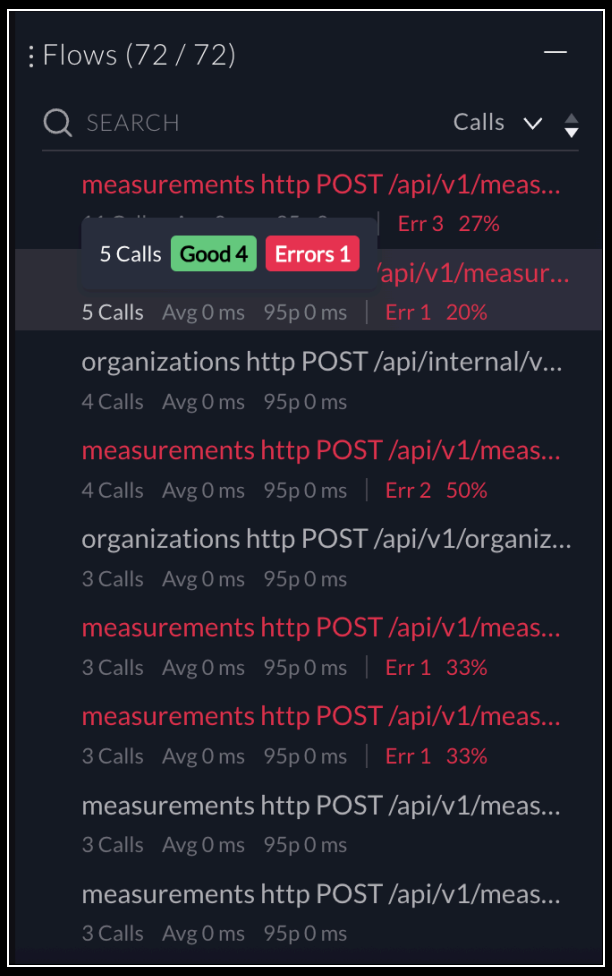

- **Added support for MQ and RPC as resources and dependencies in Distributed Architectures.**

  MQ resources (such as Rabbit MQ) and RPC resources (such as gRPC) now appear in the Resource and Endpoint filters when detected.

- **Enhanced Visibility of Connected Agents**

  The NEW MEASUREMENT page now indicates the current number of connected agents actively sending telemetry data. Users can view agent IPs, tags, and last update timestamps.

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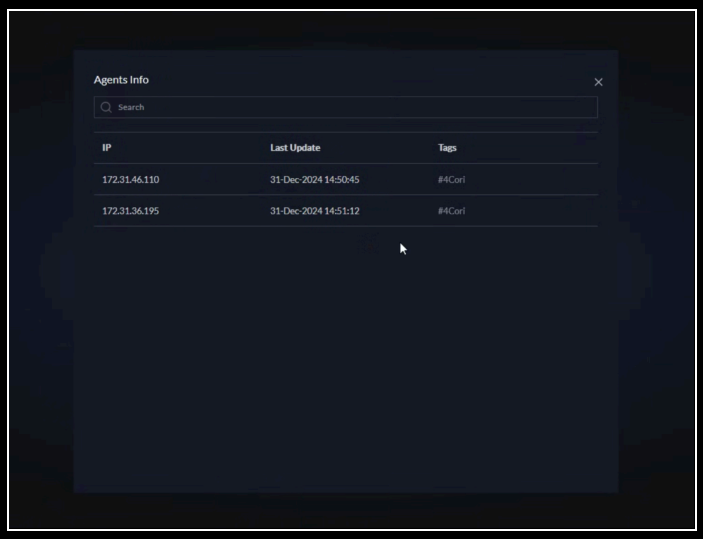
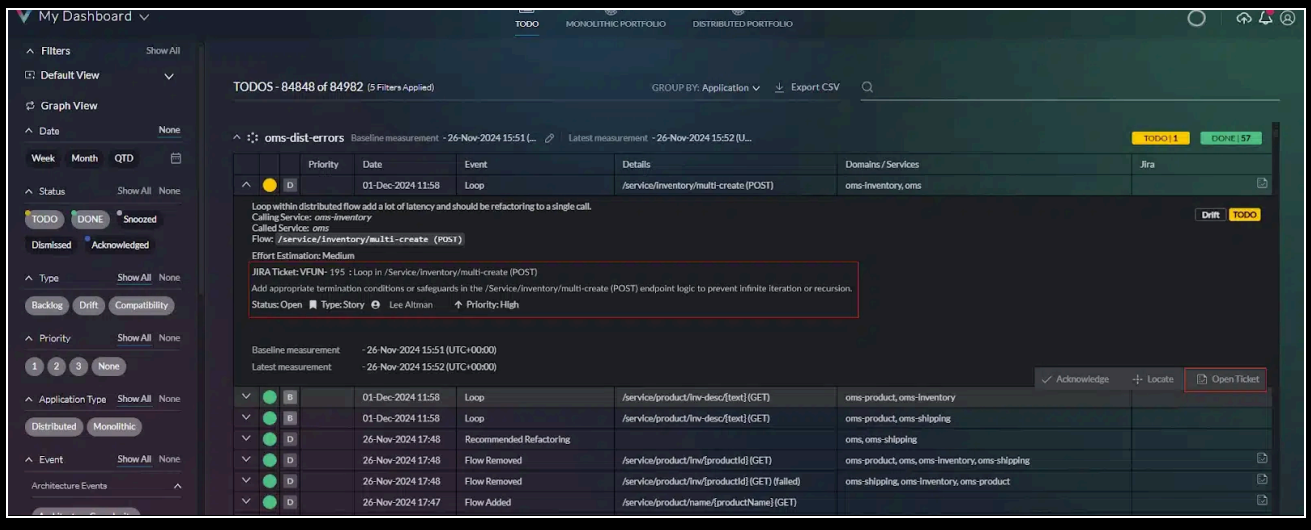


Observability Improvements

- **Create JIRA Tickets from TODOs**

  Each TODO now includes a "Create Ticket" button which creates a JIRA ticket to the TODO, enabling updates and synchronization.

  - Each TODO now includes an **"Open Ticket"** button.
  - When a ticket is created, a link to the JIRA issue is added to the TODO and its status can be seen within vFunction.
  - Status changes (e.g., TODO marked as Done) create comments on the linked JIRA issue.



To enable Jira go to My Team > Configure Apps, where admins can provide JIRA credentials and a base URL.

- ## Architecture Audit Log

  Added a Logs section in the UI to record architectural decisions made on TODOs and provide the following information

  - **Action**: Actions like adding or dismissing TODOs, uploading references, changing baselines, and setting the latest measurement. Only impactful actions are logged, excluding routine auto-generated TODOs or completed TODOs.
  - **Details**: Affected entities with context for the action.
  - **User**: The user responsible for the decision.
  - **DateTime**: Timestamp of the decision.
  - **Comment**: Users can provide editable comments to document their reasoning.

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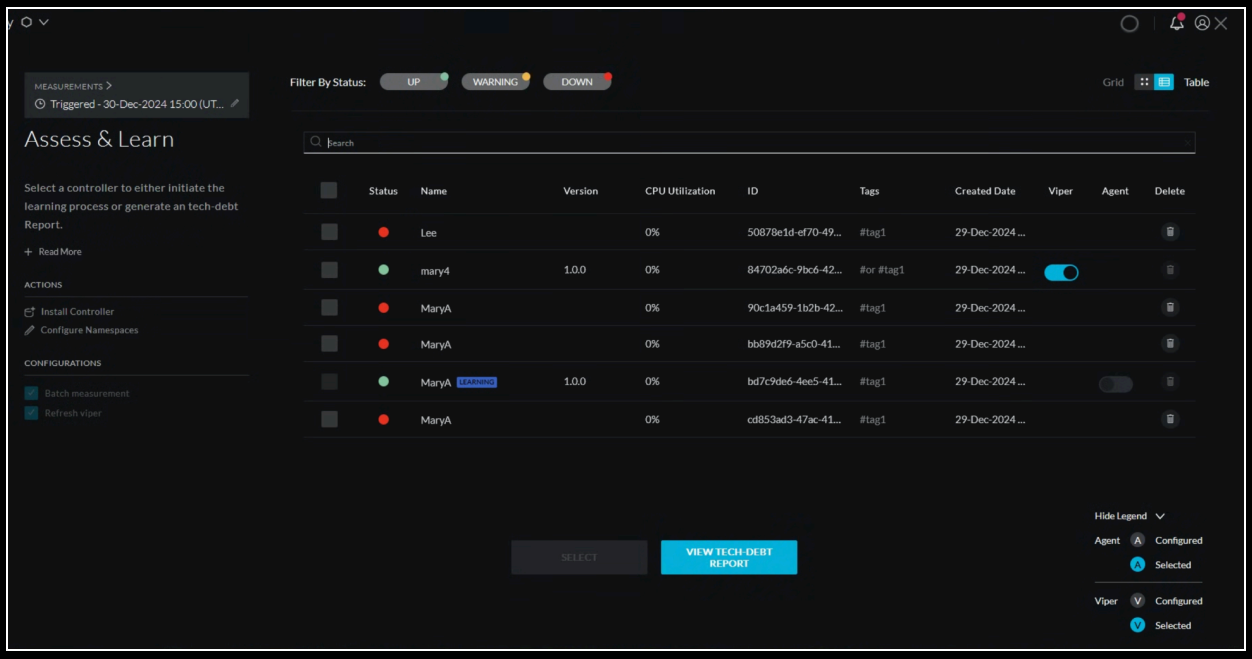
Usability Improvements

- **Improved Table View for Controller Management for Monolithic Applications**

  Enhanced the table view for Controller Management with better visibility and usability. Added a sorting option, and a new search box for simplified finding controllers by name. Improved responsiveness ensures a better experience across devices.



- **Set Measurement as Latest During Import**

  Added an option to mark a measurement or a reference as the latest one from the import screen. The option is visible only when a baseline is already set and is disabled by default.

- **Recently-Visited Applications in the Menu**

  Introduced a "Recently-Visited" section in the application menu, allowing users to quickly access their recently visited applications.

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Installation Improvements

- **No More Controllers**
  There is no longer a need for the controller process for .NET agents and Vipers, allowing for simpler installation on cloud environments such as Azure App Service, etc.
  Upgrading the agent supports a smooth transition from previous versions.

Extraction Improvements

- Automatically adding OpenTelemetry for extracted Spring boot services
- Improved .NET code-copy: improved handling of class definition and project.