IBM Spectrum Scale
Proactive Services

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Outline

- ***Proactive Service / Call Home Benefits***

- Healthchecker

- Customer Insights

- Outlook

Proactive Service & Call Home Benefits

Improved service response time

– Service team can start with problem analysis without delay

– Selected failure events trigger automatic Call Home upload

– Provide additional data* (e.g. historic call home data) to analyze issues

Better customer support experience (consumability/ease of use)

– Upload gpfs snaps directly from the Spectrum Scale system

– See system configuration changes between call home uploads. **New in 5.0.5**

Proactively detect issues (Healthchecker)

– Detect best practice violations and common misconfigurations

– Proactively find out which customer is affected by a known issue

Provide customer insights reports for support and development

– Better understand how customers use Spectrum Scale

  • Improve test and development. Focus on real customer use cases

Automatically open PMRs for hardware failures (ESS only)

*Call Home collects configuration data, logs and health/performance data only (no PI). Full list can be found in Spectrum Scale Infocenter

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Spectrum Scale Health Checker

IBM Spectrum Scale

Spectrum Scale Health Checker is an IBM internal Cloud application which is used to detect best practice violations, common misconfigurations and known problems by running rules against incoming call home data.

Call Home Data → Known Issues / Best Practice Violations / Flashs/APARs → Alerts
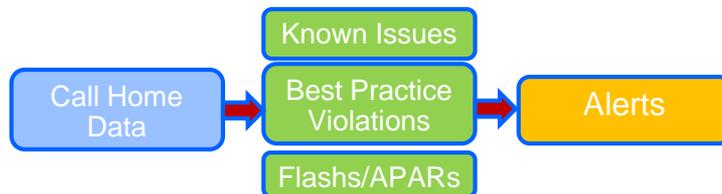
1. **IBM Support and Development teams create Healthchecker rules to detect known problems**.

   – When IBM publishes a Flash / Support Notification

   – When a new problem is discovered on customer systems (PMR/Case) or in our regression testing

   – When new best practice guidelines are defined

2. **When new Call Home inventory data arrives, the rules will automatically run and evaluate the call home data.**

   – Identify all customers who might be impacted

3. **If the rules successfully found known problems, alerts are getting raised**

   – Alerts are shared with the support team (Healthchecker & internal Slack channel)

Healthchecker – Examples of what we detect today

IBM **Spectrum Scale**

1) Spectrum Scale Flashes

   – Detect kernel levels which might lead to crashes (Flash 887729)

   – Running Scale version with a security vulnerability (e.g. Flash 1086687)

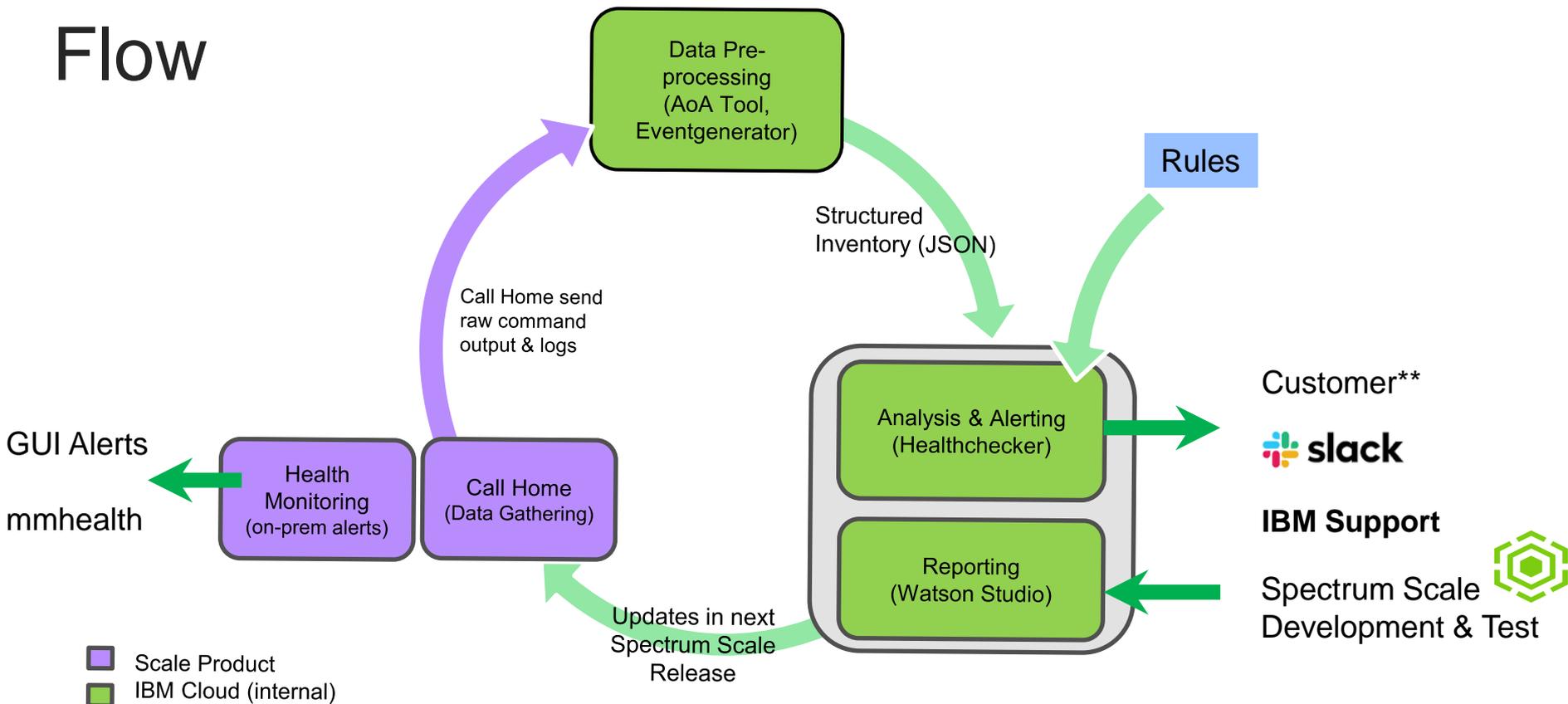   – Detect feature usages & Scale version which are prone to data corruption (Flash 1274428)

2) Best Practice Violations

   – On Power Systems, detect if recommended tuning options are set (numaMemoryInterleave, SMT,etc.)

   – Detect unbalanced NSDs. Some NSD servers act as primary server more frequently than others.

3) Misconfiguration / Known Limitations

   – SMB Protocol is active but mandatory gpfs options are not set correctly

   – VerbsRDMASend on Scale 4.2.x scaling limit

Healthchecker Flow

Data Pre-processing (AoA Tool, Eventgenerator)

Rules

Structured Inventory (JSON)

Call Home send raw command output & logs

GUI Alerts

mmhealth

Health Monitoring (on-prem alerts)

Call Home (Data Gathering)

Analysis & Alerting (Healthchecker)

Reporting (Watson Studio)

Customer**

slack

IBM Support

Spectrum Scale Development & Test

Updates in next Spectrum Scale Release

Scale Product
IBM Cloud (internal)

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Customer Insights

IBM **Spectrum Scale**

Call Home enabled clusters

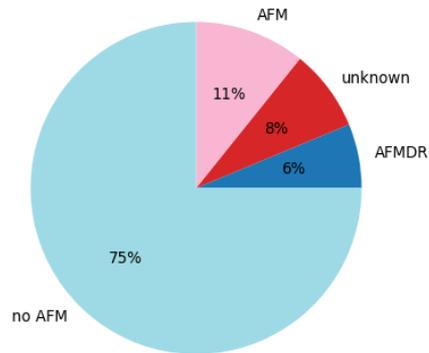### ESS vs. Scale
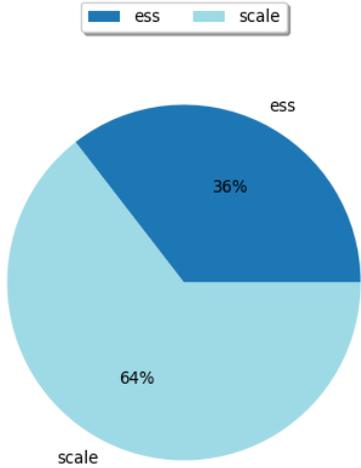
HW Architecture
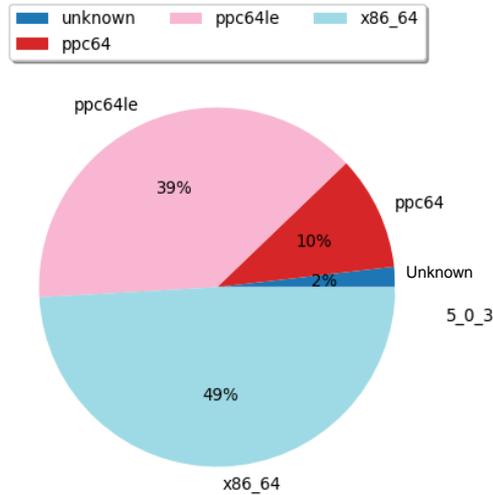
Adoption of new releases

Scale Version
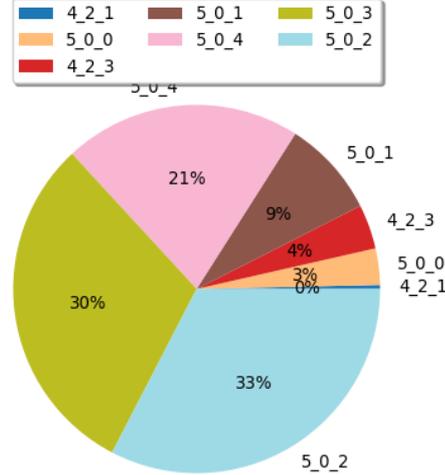
Feature Usage

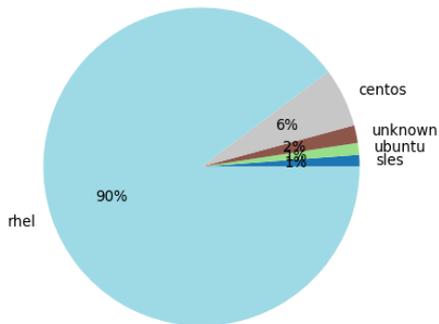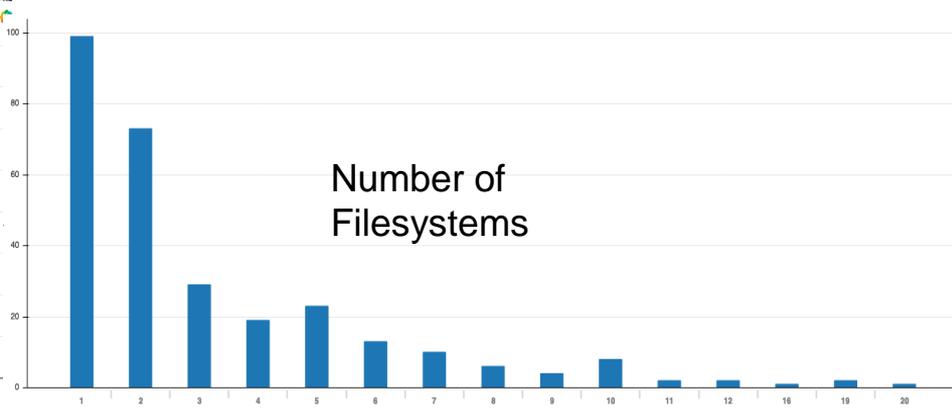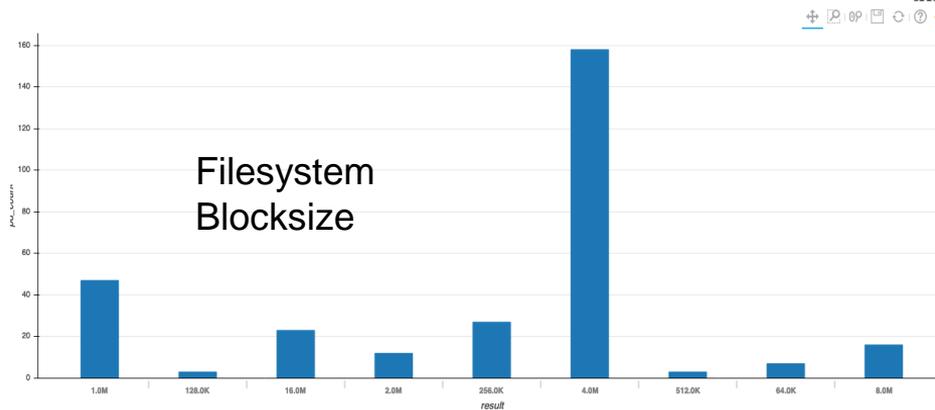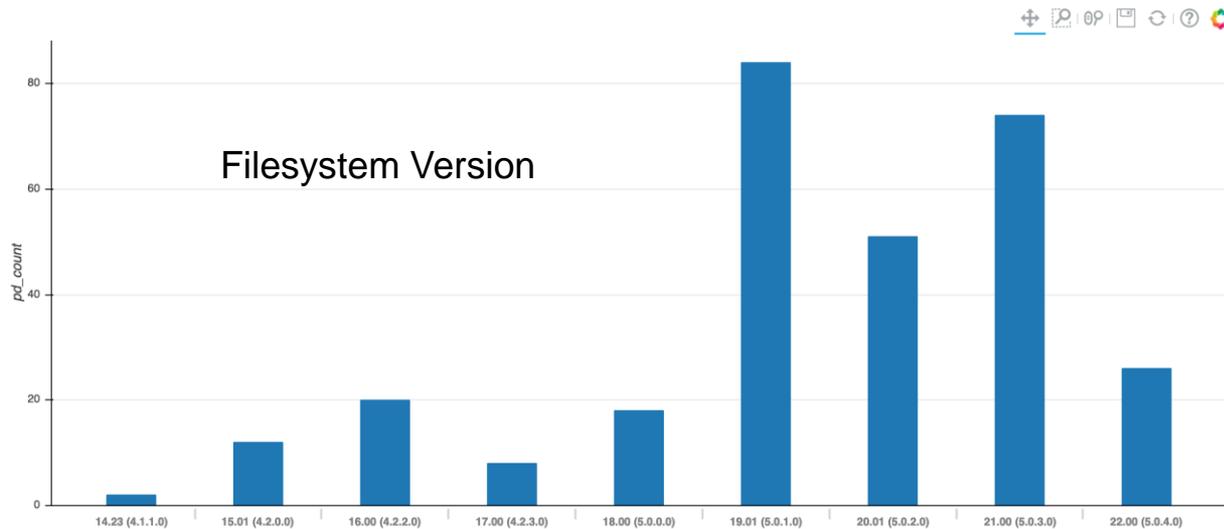### Protocols
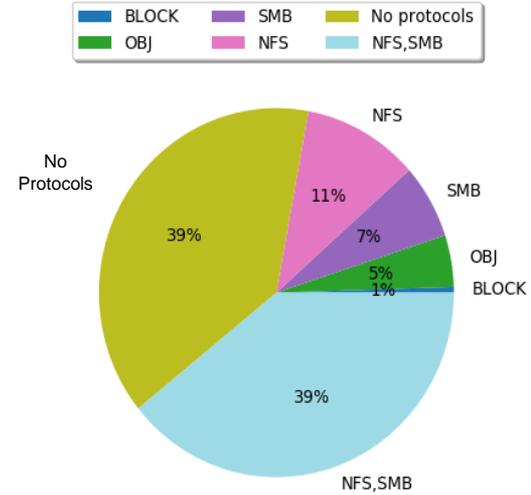
What are the most important features -> Where to put most focus on in Test/Dev

Feature Usage
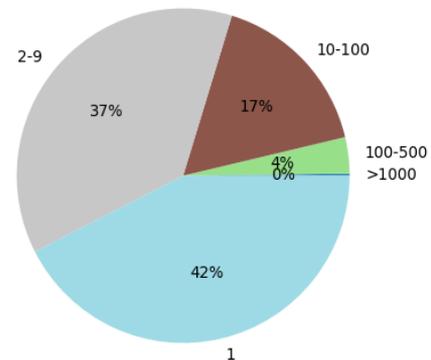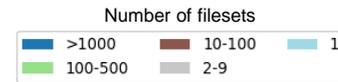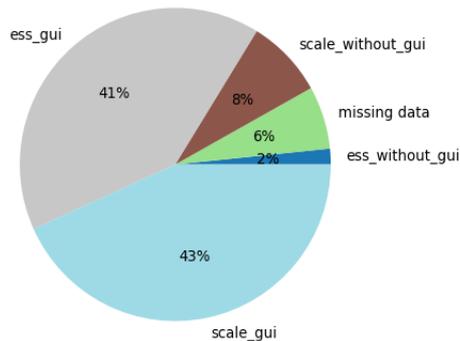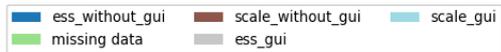
Filesystem Details

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- **Outlook**

Proactive Service Future & Vision

Directly inform customers proactively about problems

− Direct backchannel to the customer system to raise alerts

  • Integrate with mmhealth / GUI

− Anyone using Storage Insights ?

− Automatically open PMRs for critical problems

Predict problems before they happen

− Predict system/component failures by using AI / ML

Provide real-time tuning recommendations

− Analyse performance metrics to detect the workload pattern

− Evaluate the best practices for the given workload pattern

Thank you!

Please help us to improve Spectrum Scale with your feedback

- If you get a survey in email or a popup from the GUI, please respond

- We read every single reply