

# z/VM Linear Service

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# Agenda

- Relevant Statements of Directions
- Linear Service Overview
- Potential Future Enhancements
- Future: Full Part Replacement

# Related Statements of Direction

## z/VM 7.3 - Related Statements of Direction

- **z/VM 7.3 is the last z/VM release planned to support the ability to apply service in a selective fashion. A future z/VM release intends to implement a linear service model whereby applying one PTF will require all previous service for the same component to be installed.**
- IBM intends to change how z/VM service is delivered in a future z/VM release. Instead of CMS update files, full-part-replacement files will be provided. In addition, full-part-replacement files will no longer contain sequence numbers, which are character line identifiers in the last 8 characters of every line in a fixed record file. z/VM source files will be encoded using the CP1047 code page, unless stated otherwise. Tooling will be provided to assist customers or vendors who still have a need to update z/VM source files.

# z/VM Linear Service

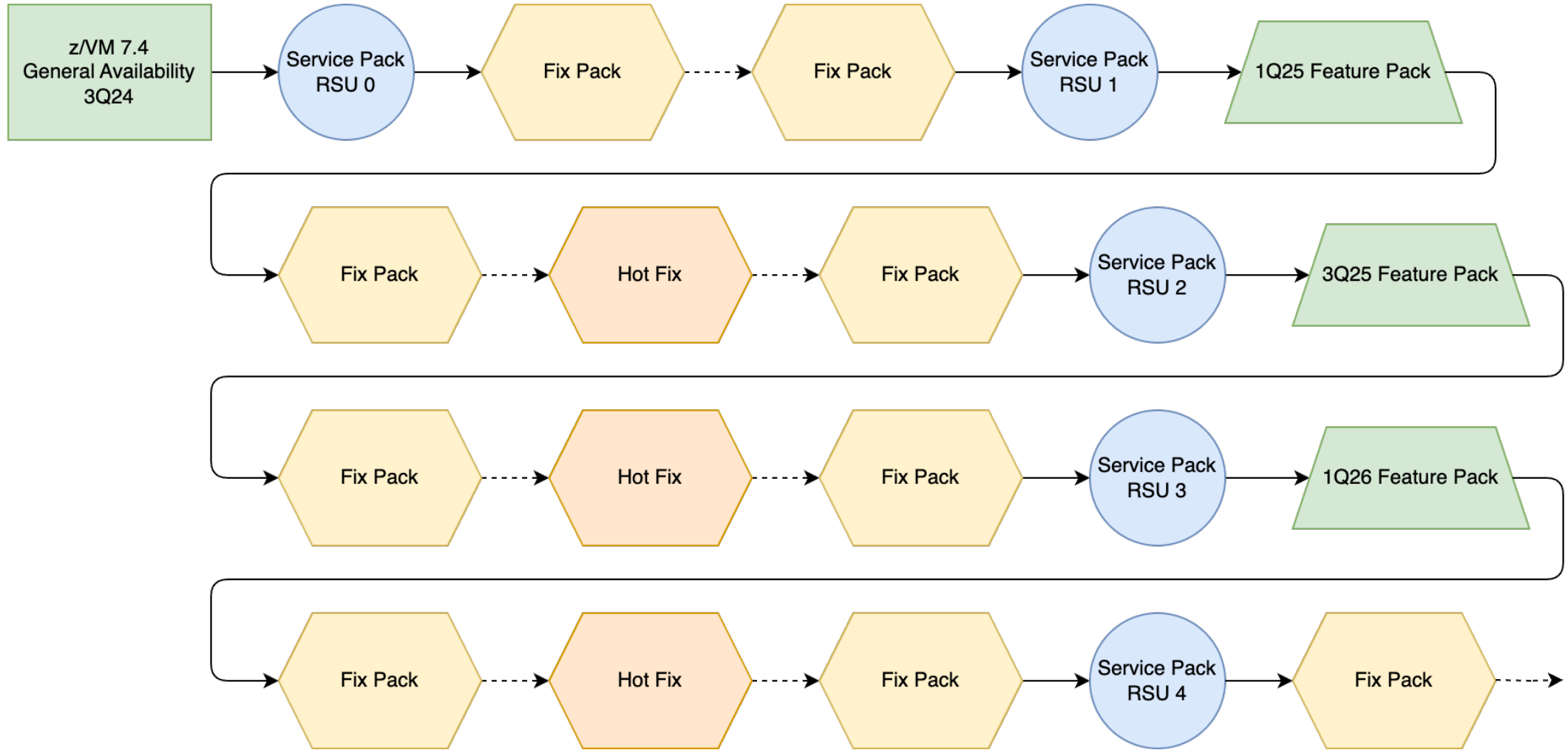
# How does z/VM deliver service today?

- z/VM provides all service as APAR/PTFs
- What is an APAR?
  - An Authorized Program Analysis Report, or APAR, is a formal report to IBM development of a problem caused by a suspected defect in a current release of an IBM program.
  - In a nutshell: An APAR is the documentation for a reported problem, a fix or deliverable shipped in service
- What is a PTF?
  - A Program temporary fix or Product temporary fix (PTF), sometimes depending on date, is a single bug fix, or group of fixes, distributed in a form ready to install for customers
  - In a nutshell: A PTF is the installable fix or deliverable containing required source code or binaries
- What APAR types do we provide today?
  - Corrective Service APARs
  - New Function APARs

# What is linear service?

- z/VM will continue to ship all service as APARs
  - Hot Fix APAR
  - Fix Pack APAR
  - Feature Pack APAR
  - Hardware Support APAR
- All APARs will have a pre-requisite against the APAR that was released last in its component
- A **Hot Fix APAR** will contain a critical fix or a security issue that must be released immediately due to its critical nature or the severity of the security exposure
- **Fix Packs APARs** will be released on a regular cadence, containing all available fixes since the last released Fix Pack
- **Feature Packs APARs** will be released every 6 months, containing new features
- **Hardware Support APARs** will be released in support of new hardware and provide the necessary hardware toleration or exploitation

# Service Stream





## Security Fixes?

- z/VM will continue to follow the z/VM Statement of Integrity available in the z/VM General Information manual or here: <https://www.vm.ibm.com/security/zvminteg.html>
- We will not publicly acknowledge or comment on the existence or severity of security exposures
- Security APARs will continue to contain the CVSS score, and information will only be available on the IBM Z Security Portal
  - More information on the IBM Z and IBM® LinuxONE Security Portal can be found here: <https://www.ibm.com/downloads/cas/EAO940BR>
- They will be released using the Hot Fix APAR process

## Recommended Service Upgrades?

- **Recommended Service Upgrades (RSUs)** will be released shortly before a Feature Pack and will contain all available APARs pre-applied for the core components
- RSUs will continue to provide a critical part in the future, providing a stable base for customers directly before a new Feature Pack introduces new functionality

# Different APAR Types

Future Type	Rough Equivalent	Cadence	Description
Hot Fix APAR	Corrective Service APAR	When necessary	Fix for critical issue requiring an immediate solution
Fix Pack APAR	Corrective Service APAR	Every 4 weeks	Bundle of fixes for regular issues with in-depth validation
Feature Pack APAR	New Function APAR	Every 6 months	Bundle of new features
Hardware Support APAR	New Function APAR	When necessary	Support for new or updated hardware

# Why are we making this change?

- Continuous delivery created inflections points when shipping huge New Function APARs where these APARs required the majority of previous APARs to be installed and then we required by a lot of later APARs
  - What we like to call Illusion of Choice
- Improve service selection
  - Discovery of available service can be time consuming or error-prone
  - A linear chain of service will allow you to quickly identify the changes that happened between two different APARs
- Reduce valid system configurations & improving test coverage
  - More than 1,000,000 valid combinations for just 20 APARs
  - You will always run an IBM tested & validated configuration in the future
- Preparation for full part replacement
  - Linear service will allow an easier transition to full part replacement
  - Necessary for the modernization of the service, build & development tools and the to allow a better integration into Linux on Z

## What does this mean for you?

- Discovering and selecting applicable service will get significantly easier in the future
- Validating that all systems receive the same service will be simplified
- You will always run a service configuration that received extensive testing from IBM
- z/VM Development intends to improve the service experience with future Feature Packs
- **However: You will no longer be able to select a single fix without having to apply other service or, potentially more problematic, a feature pack**

## Available service paths in the future

- Manage and control the amount of service that must be applied by following one of these paths

Service Path	Conservatism	Features	Description
Stay on the oldest release in service	High	Delayed by up two years	Guarantee that no new features must be applied to receive corrective service
Latest RSU of current release	Medium	Delayed by 6 months	Stay on the latest RSU and adopt new features only after a delay of 6 months after availability
Latest released APAR	Low	As soon as available	Apply service and features as soon as available, recommended for development or test systems

- Please talk to me about the value a RSU can provide you in the future!

# Potential Future Enhancements

# Changelog

- Implementing linear service will allow us to provide a meaningful linear changelog
- List if all APARs in chronological order with release date, details and content
- Useful to compare all changes between an as-is state and a to-be state

## Change Log

All notable changes to this project will be documented in this file. See [standard-version](#) for commit guidelines.

### 1.1.1 (2017-01-26)

### 1.1.0 (2017-01-25)

#### Bug Fixes

- fix save of firstname and lastname from devices upon enrollment ([2e6e824](#))
- update URL of the agent for Android ([ecae936](#))
- api: fix error message ([c721a07](#))
- api: geolocation always rejected ([4c70781](#))
- documentation: add installation instructions ([a288e1b](#)), closes #4
- documentation: enhance installation documentation ([ad9dd6d](#))
- documentation: github template for issues ([d9ad78f](#))
- enrollment: use login instead of email to find a user ([617425f](#))
- install: add check for gd extension for PHP ([64a2682](#)), closes #9
- install: prevent warning ([13a5283](#))
- policy: fix error 500 when parsing a bad UPK file ([c71d434](#))
- user account: use constant for default agent application download URL ([c746a9f](#))

#### Features

- add demo mode ([949f7c2](#))
- api: expose configuration settings ([e9cd70d](#))
- ci: add webhooks ([8c04079](#))
- device communication: log inventory errors ([06f724f](#))



# QUERY enhancements

- CP QUERY CPLEVEL
  - Query the APAR level which was used to build the CLOAD MODULE
- CP QUERY SERVICE
  - Query the last installed APARs for all SES serviced components

# Future: Full Part Replacement



## DIFF & PATCH

- CMS DIFF and PATCH Utilities will be provided in the 7.4 service stream to allow customers & vendors to prepare for the future changes
- Comparable to the well known UNIX/Linux utilities
- Aims to provide full bidirectional compatibility for unified diffs between the CMS utilities and the Linux and z/OS versions
- The service process will be enhanced to support the integration for customer and vendor provided patch files directly into the service process comparable to the inclusion of UPDATE files today

