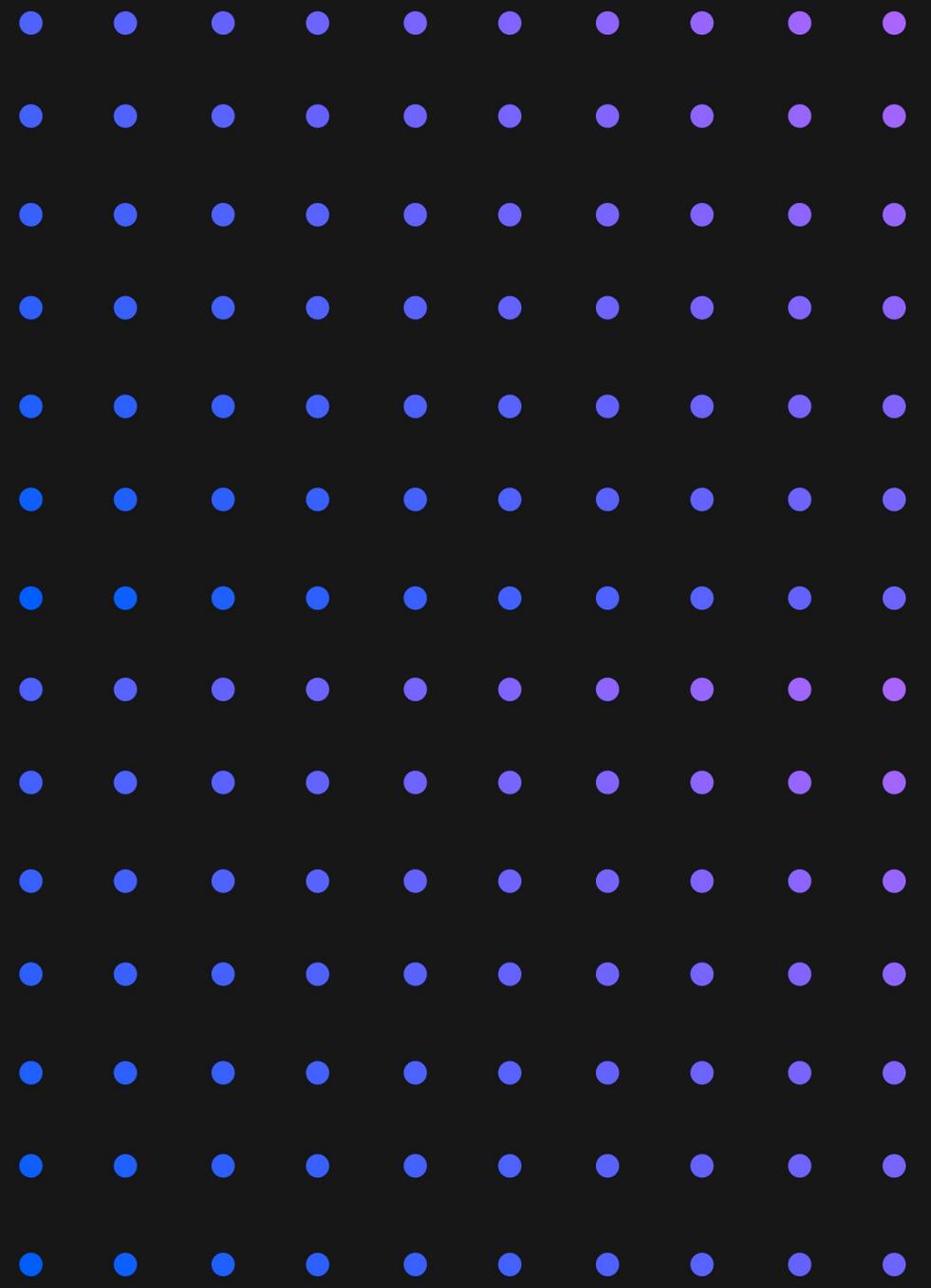




# Hardware Management Console (HMC) & Cloud Management Console (CMC) updates

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# Agenda

- HMC Hardware & Release lifecycle
- HMC V10
- HMC V10 R1 M1010 updates
- Ansible for HMC
- CMC Updates

# Hardware Roadmap

## HMC V9 / P9

2Q / 18

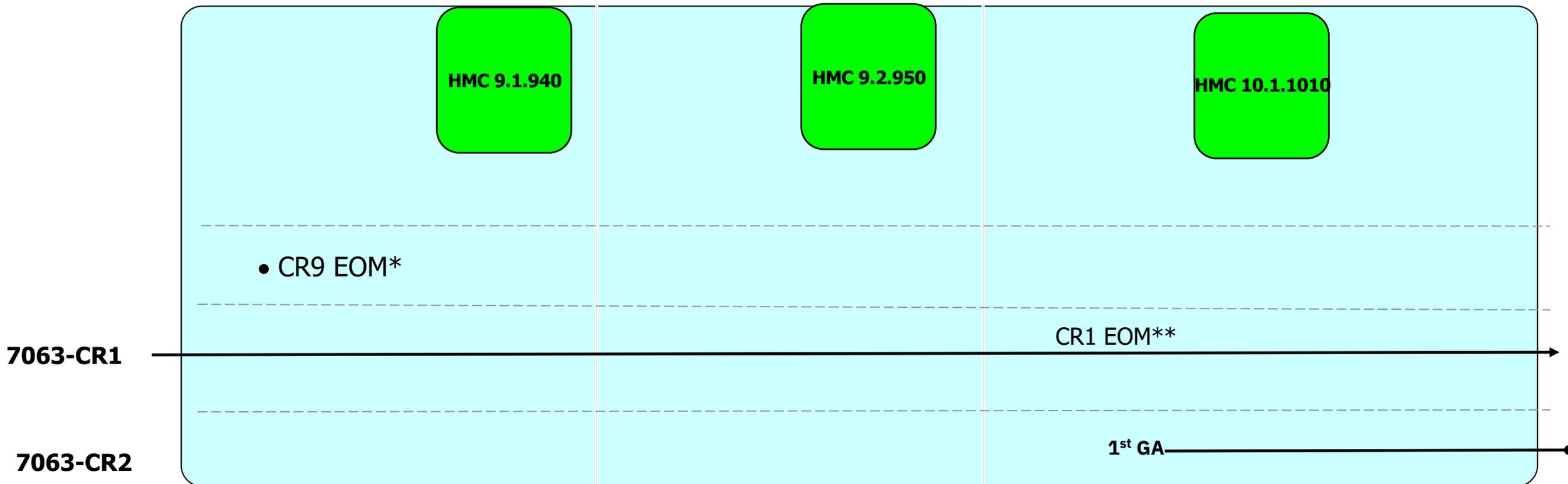
4Q / 19

4Q 2020

## HMC V10 / P10

2Q 2021

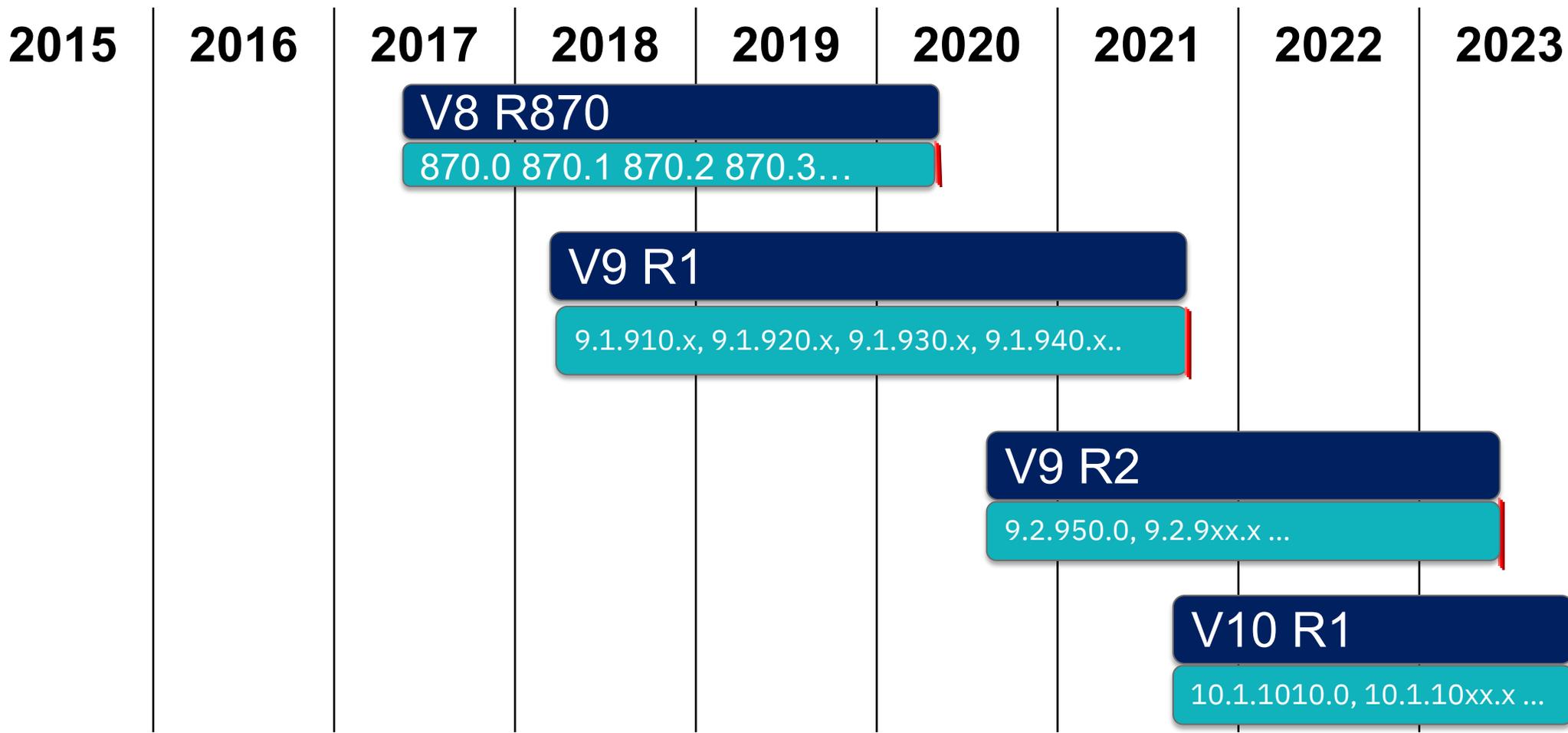
3Q 2021



- Virtual HMC appliance (vHMC) x86 (VMWare ESXi, KVM, Xen) and ppc64le (PowerVM) continue to be supported.
- \*\* End of Marketing announce only. HMC updates and support for CR1 is still available.
- \*See [https://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep\\_ca/5/877/ENUSZG18-0045/index.html&request\\_locale=en](https://www-01.ibm.com/common/ssi/ShowDoc.wss?docURL=/common/ssi/rep_ca/5/877/ENUSZG18-0045/index.html&request_locale=en) for info regarding 7042 withdrawal

Any statements regarding IBM's future direction, intent or product plans are subject to change or withdrawal without notice.

# HMC Release Lifecycle



VX RY Major release
 V.R.M.F Maintenance levels & PTF's
 | End of Support

- Replacement approach for old releases so no EOM announces
- Within a release, a new maintenance level supersedes an existing maintenance level

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# HMC V10 & Power 10

## HMC V10

- Required to manage Power 10 systems
- Will not manage POWER7 systems
- Supported in 7063-CR1, 7063-CR2 and Virtual HMC appliance models
- Not supported on 7042 machine types

# HMC V10 R1 M1010 Highlights

## Server Management

- Support for POWER10 High End Systems and IO adapters

## Virtualization & PowerVM Management

- VIOS Management Enhancements
  - Prepare for VIOS Maintenance
  - Command Line & Scheduled operations support for VIOS backup/restore
  - Option to failover all Virtual NIC's from one VIOS to another
- Support only 128 / 256 MB LMB sizes
- Automatically choose fastest network for LPM memory transfer
- HMC User Experience Enhancements
  - Usability, performance improvements
  - Enhancements to help content global search
  - Quick view of Serviceable events
  - Additional Progress Information for UI Wizards
- Allow LPM/Remote Restart when virtual optical device is assigned to partition
- AIX Update Access Key support

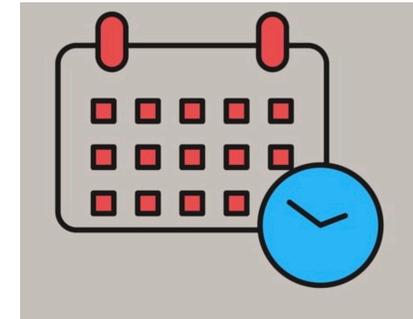
## Console Management

- Ability to configure login retries and suspended time and support for inactivity expiration in password policy
- Ability to specify HMC location , data replication for groups and option to alert only when scheduled operation fails

# HMC V10 R1 M1010 – VIOS Management Enhancements

## ❖ Prepare VIOS for Maintenance

- Validation for redundancy for the storage/network provided by VIOS to client partitions
- Switch path of redundant storage/network to initiate failover
- Rollback to original configuration on failure of prepare
- Audit various validation and prepare steps performed
- Report any failure seen during prepare



## ❖ Option to backup/restore Shared Storage Pool config in HMC

## ❖ Scheduled operations to automate the VIOS Config backups in HMC

## ❖ HMC CLI options to backup/manage/restore VIOS Config/SSP Config

## ❖ Options to import/export the backup files to external storage



# HMC V10 R1 M1010 – Automatically choose fastest network for LPM memory transfer

- ❖ Requires HMC V10 R1 M1010 or later and VIOS 3.1.3 or later
- ❖ HMC will automatically choose the MSP IPs which provide best performance for partition memory data transfer during LPM
- ❖ HMC will consider the following for automatically choosing MSPs
  - Network adapter Speed
  - Current data transfers in progress using the MSP
  - Current data transfers in progress using the network adapter
  - Difference of network speed between the interfaces on source and destination MSP
- ❖ In case user specifies the MSP IP, user selection will be used, as it's done currently
- ❖ For cases like VIOS not being at 3.1.3 or later or one of the HMC's not at V10 R1 M1010 or later, algorithm prior to HMC V10 R1 M1010 will be used.

# HMC V10 R1 M1010 – HMC Management and Security enhancements

- ❖ Ability for user to specify HMC location as user defined info (chhmc/lshmc commands)
- ❖ Ability to configure e-mail notifications, only when a scheduled operation fails
- ❖ Ability to enable data replications for groups
- ❖ Ability to configure suspended time (after consecutive login failures) as part of console default settings
  - ❖ Default number of login retries is 3 (with max of 50) and suspension time is 5 minutes (max of 1440 minutes (24 hours))
- ❖ Ability to enforce inactivity expiration as part of password policy
- ❖ Increase in maximum days for password expiry from 180 to 365

# HMC V10 R1 M1010 – AIX Update Access Key

- ❖ One CoD key per system, like Firmware Update Access Key
- ❖ Helps the system administrator track and ensure AIX SWMA is in place
  - Initial key expiration aligns with SWMA expiration
- ❖ Check for AIX image date against UAK expiration date will be done when
  - ❖ AIX updates are applied (AIX check)
  - ❖ During partition boot, including remote restart and LKU (AIX check)
  - ❖ During Live Partition Mobility (HMC check)
- ❖ Warning only (no enforcement)
- ❖ Applicable on POWER10 servers
- ❖ AIX UAKs obtained from IBM ESS website
- ❖ Can be enabled to be automatically updated via HMC like firmware update access keys

# HMC V10 R1 M1010 – UI and Usability Improvements

- ❖ Login page UX changes
- ❖ UX improvements for left navigation icon and labels
- ❖ New Headers and icons in dashboard (Task Logs / Serviceable Events)
- ❖ Quick view of serviceable events in dashboard view
- ❖ Improvement to search to do context-based search instead of sub-string-based search
- ❖ Progress status of long running and multi-step operation
- ❖ Better handling of long running DLPAR processor/memory operations from GUI

# HMC V10 R1 M1010 – Code update wizard improvements

## All Systems

Select All

Actions ▾



horus



Power off

Attention LED

0 CPU 0 CPU Available

0.0 GB 0.0 GB Available

- View System Partitions
- View System Properties
- View Performance Dashboard...
- Performance Data Collection ▶
- System Attention LED...
- Schedule Operations...

Update Firmware ▶

- Serviceable Events Manager...
- Reference Code Log...
- Reset or Remove System Connection...
- View All Actions ▶

Check Readiness...

System Firmware ▶

I/O Firmware ▶

SR-IOV Firmware ▶

Advanced Features ▶

View Current Levels...

Update...

# Roadmap: Power Systems HMC Collection

2021

1H2021 (April)

3Q2021

4Q2021

## Logical Partition Management

- Logical Partition Creation with
  - Virtual Storage
  - Virtual Network
  - Shared Processor Pool Support
- Partition State Change
  - Activation
  - Shutdown

## • Logical Partition Creation

Physical IO, NPIV

## • Full System partition

## • System Power On/Off

## • System Settings

Eg: Memory region size

## • Create & Install VIOS

## • Live Partition Mobility

*Note: All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice and represent goals and objectives only.*

# Roadmap: Power Systems HMC Collection

## Key Capabilities

### Systems Management

- Gather System & Partition Inventory
- System Power on/off
- System settings
- Create & Install VIOS

### Virtualization Management

- Partition creation
- Partition deletion
- Partition Activation
- Partition shutdown
- Live Partition Mobility

### Appliance Management

- HMC updates/upgrades
- Password policy management

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# IBM Cloud Management Console for Power Systems



## Minimal On Prem Setup



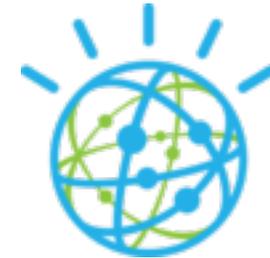
- Cloud connector ships with HMC
- Configuration established at cloud platform / portal
- No need to manually sync cloud connector

## Secure Cloud Storage

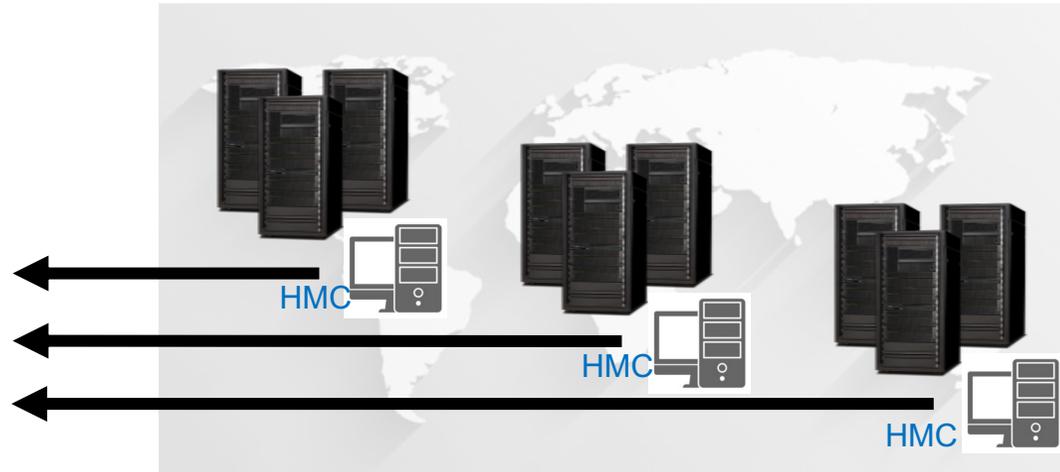


- Secure, continuous, one-way push of data from cloud connector to cloud
- Supports proxy servers
- Company admin configures cloud connector and users' data access
- IBM ID for authentication
- Multi-tenant model based on customer-unique key
- At-rest encryption

## Services



- Data visibility + insights
- DevOps delivery / decrease TTM
- Future intentions for predictive analysis & actionable insights



# Apps aligned with customer use cases

## Inventory



- View all Power Systems, HMCs, LPARs, etc. across your entire enterprise
- See basic health & state
- Tag groups
- Hardware inventory

## Capacity Monitoring



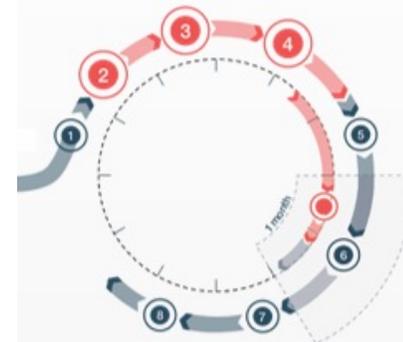
- Aggregated performance views across your Power enterprise
- Shared Processor Pool metrics
- Thresholds
- Alerts/Notifications

## Log Trends



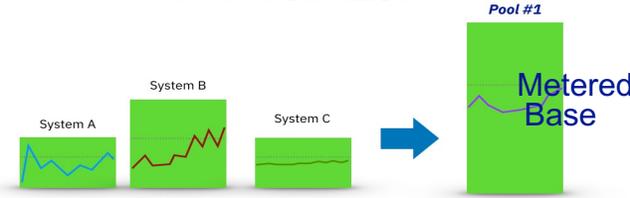
- Log aggregation
- Telemetry

## Patch Planning



- Patch compliance reports, showing what firmware, HMC, VIOS, and OS updates are missing
- Scheduled maintenance plan management

## Power Private Cloud with Shared Utility Capacity/Enterprise Pools 2.0



- Seamless multi-system resource sharing and flexibility for clients deploying a private cloud infrastructure
- Shared Utility Capacity across a pool of Power 9 & Power 10 systems

# CMC Highlights 2021

Expand CMC deployment to London and Sydney regions  
Support 2000 partitions per pool/CMC  
Support 1000 partitions per HMC  
•Minimum HMC level – HMC V9 R2 M950 + PTF MH01883/MH01884

Enablement for POWER10 Systems  
Enablement to identify CoreOS for Metering  
EP2.0 Chargeback Phase 1  
•APIs to get EP2.0 Utilization data  
•Ability to add tags

**2Q 2021**

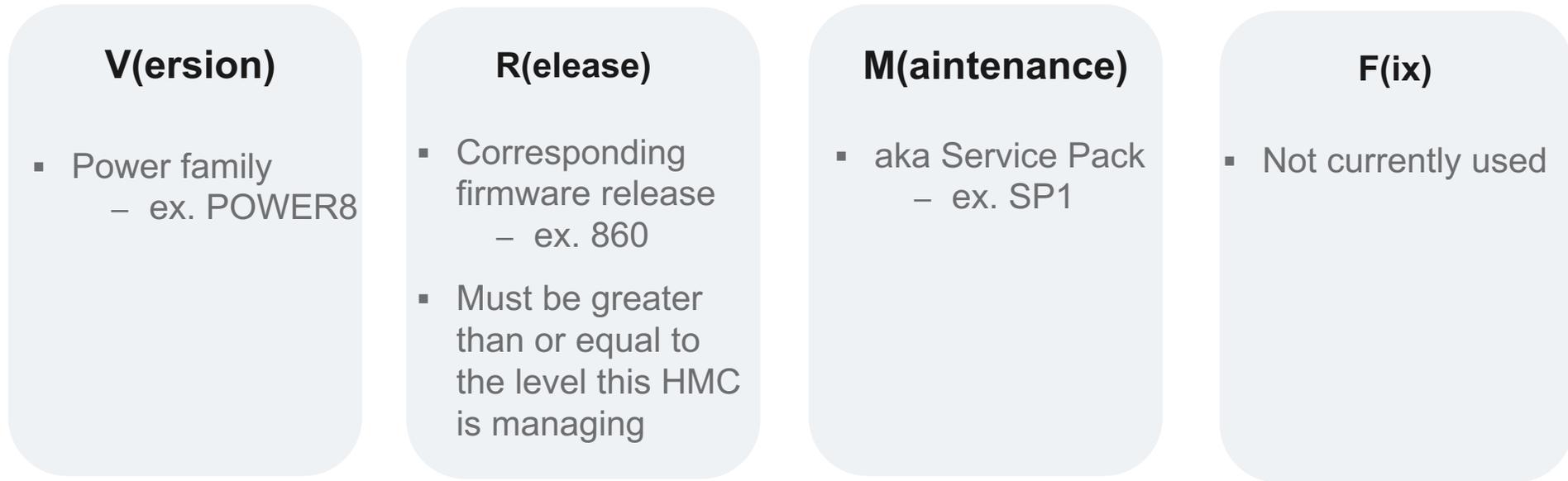
**1Q 2021**

**3Q 2021**

Metering for SLES  
Capability to schedule e-mail notifications for EP2.0 Usage statement  
Add additional details for HMC in inventory view

Backup

# HMC Version Format – Version 8



- A release is supported for two years
  - This includes Service Packs and PTFs
  - There are four to five releases in support concurrently at any given point in time.
- Many clients have strict processes and procedures in place that prevent upgrading to a new release in cadence with when IBM GAs it.
  - It's not always possible to obtain the latest functional fixes and enhancements as they're typically issued on the latest release stream.
- From the perspective of security alone in how often, and with what severity, vulnerabilities are disclosed, the above two points are proving to be more and more of an issue.

# HMC Version Format – Version 9 or later

## V(ersion)

- Power family
  - ex. POWER9

## R(elease)

- Only increment on major revisions
  - ex. base OS upgrade
  - much less frequency than today

## M(aintenance)

- Corresponding firmware release
  - ex. 910
- Must be greater than or equal to the level this HMC is managing
- Last digit indicates Service Pack

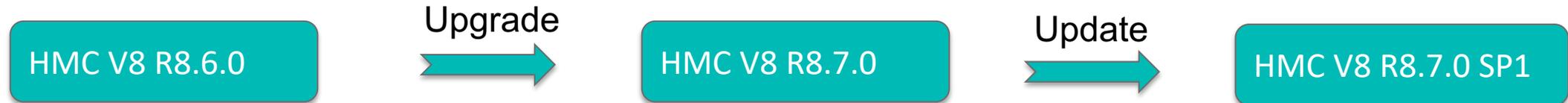
## F(ix)

- aka PTF
- Ishmc output will show “MH” mapping

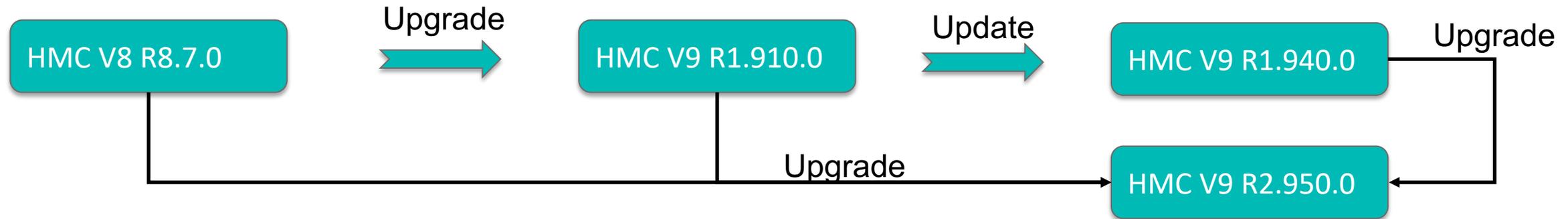
- A release is supported for two years, same as today.
- Maintenance releases will be supported until they're superseded by the next subsequent maintenance level
- The cadence with new firmware releases and Power system models will remain unchanged.
  - Rather than receiving a new HMC release, (more often than not) there will be a new HMC maintenance level.
  - When there's no new firmware or Power system model, there can still be a new HMC maintenance level.
- Less releases allow freedom to update to the latest maintenance level without worrying about stack (VIOS, firmware, OS) compliance.
- Easier to stay current with functional fixes and enhancements. IBM can focus mostly on the current release (because there will be less releases) and making sure each maintenance level is delivered with increased quality.

# HMC Upgrade/Updates V8 & V9

## V8 Upgrade/Update



## V9 Upgrade/Update



When a new maintenance level is released, it supersedes existing maintenance levels and fixes will be provided on the latest maintenance level. Its not any

For more details, please see blog at [ibm.biz/BdZSYq](https://ibm.biz/BdZSYq)