



Progress of MST improvement from AMD

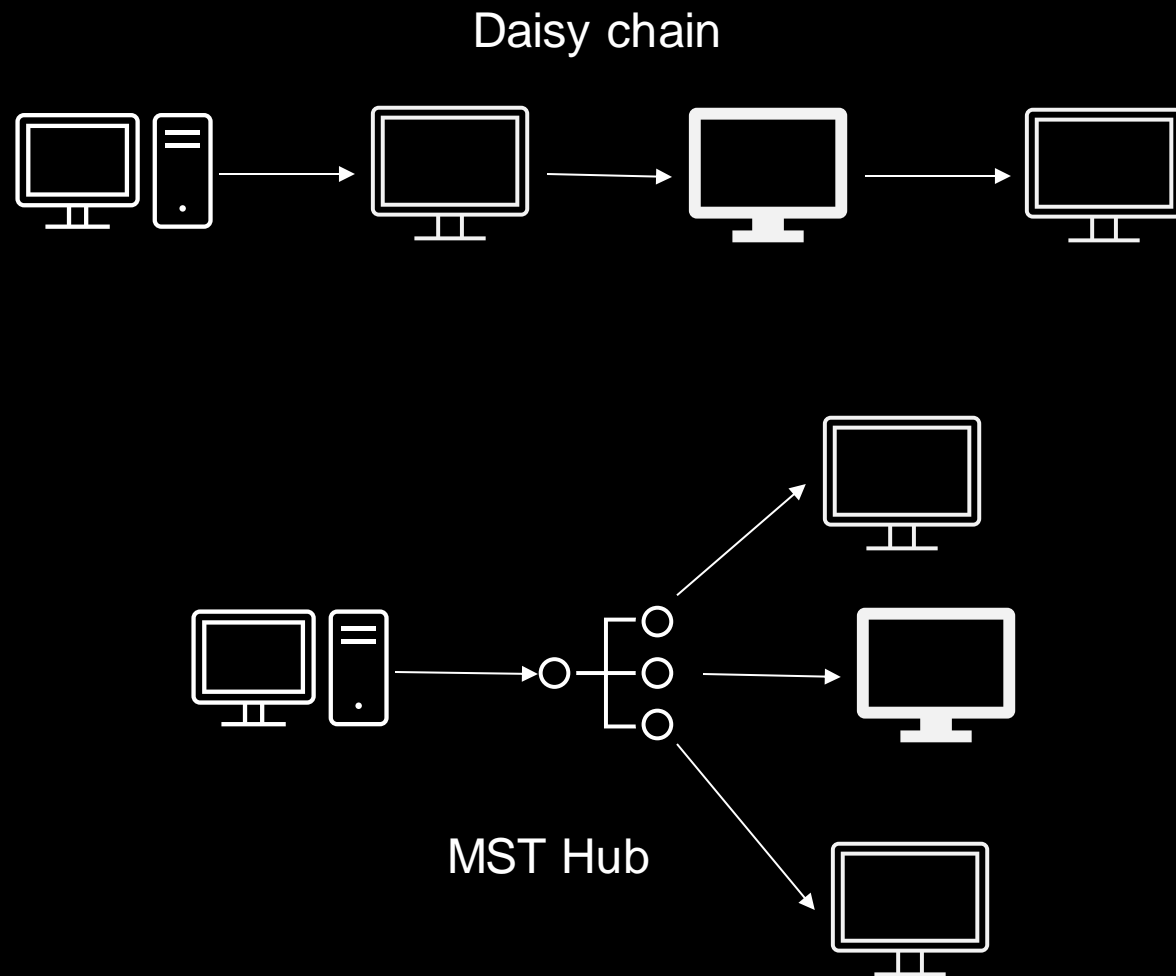
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Agenda

- Background knowledge
- Concerns while enabling MST streams
- MST flow in Linux
- Progress of enhancement
- Demo

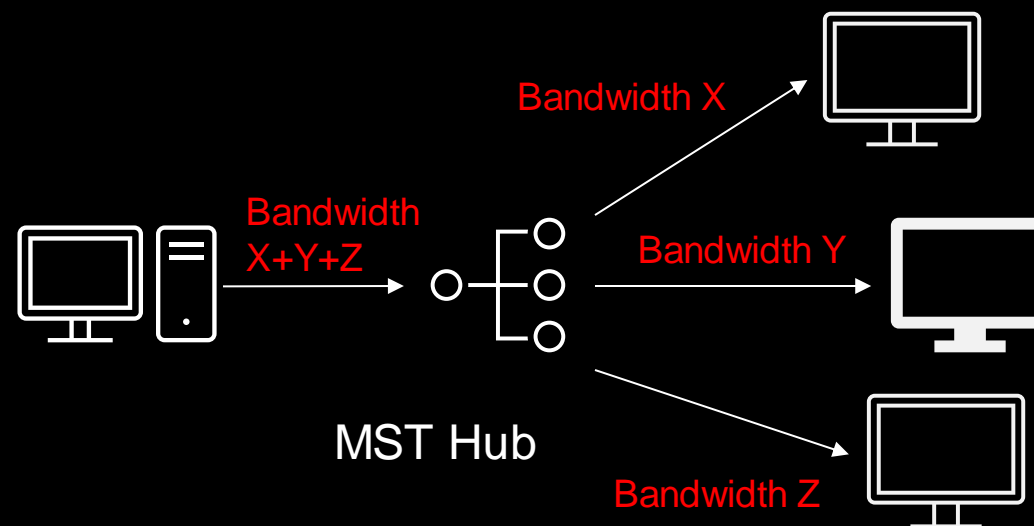
Background knowledge

- Multi-Stream Transport (MST)
 - DP 1.2
 - Time-Division Multiplexing alike
 - 64 time slots a round
 - Tree alike topology
 - E.g., Daisy chain, hub, dock, etc.



Concerns while enabling MST streams

- Concerns underneath
 - How many stream sinks in the topology?
 - Which mode can be displayed?
 - Is path available bandwidth sufficient?
 - What are the capabilities of the DP outputs on the MST hub?
 - Is DSC an option for a stream?
 - At which output point should we decompress the DSC bitstream?
 - Interactions among MST devices

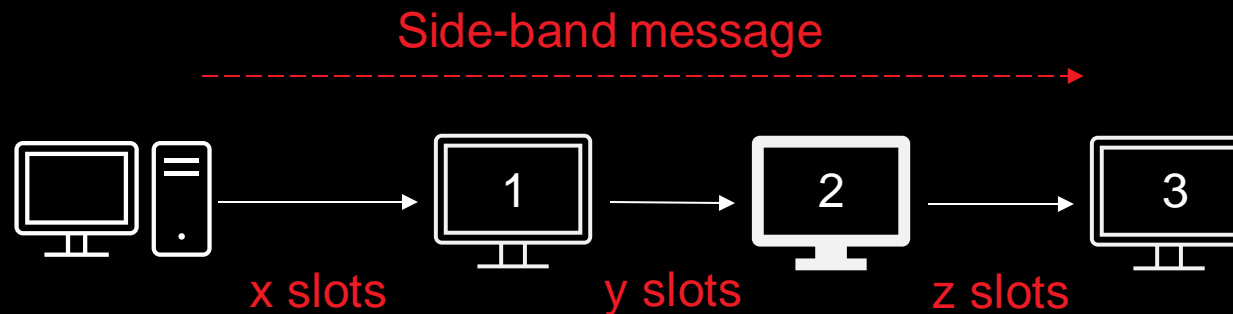


MST flow in Linux

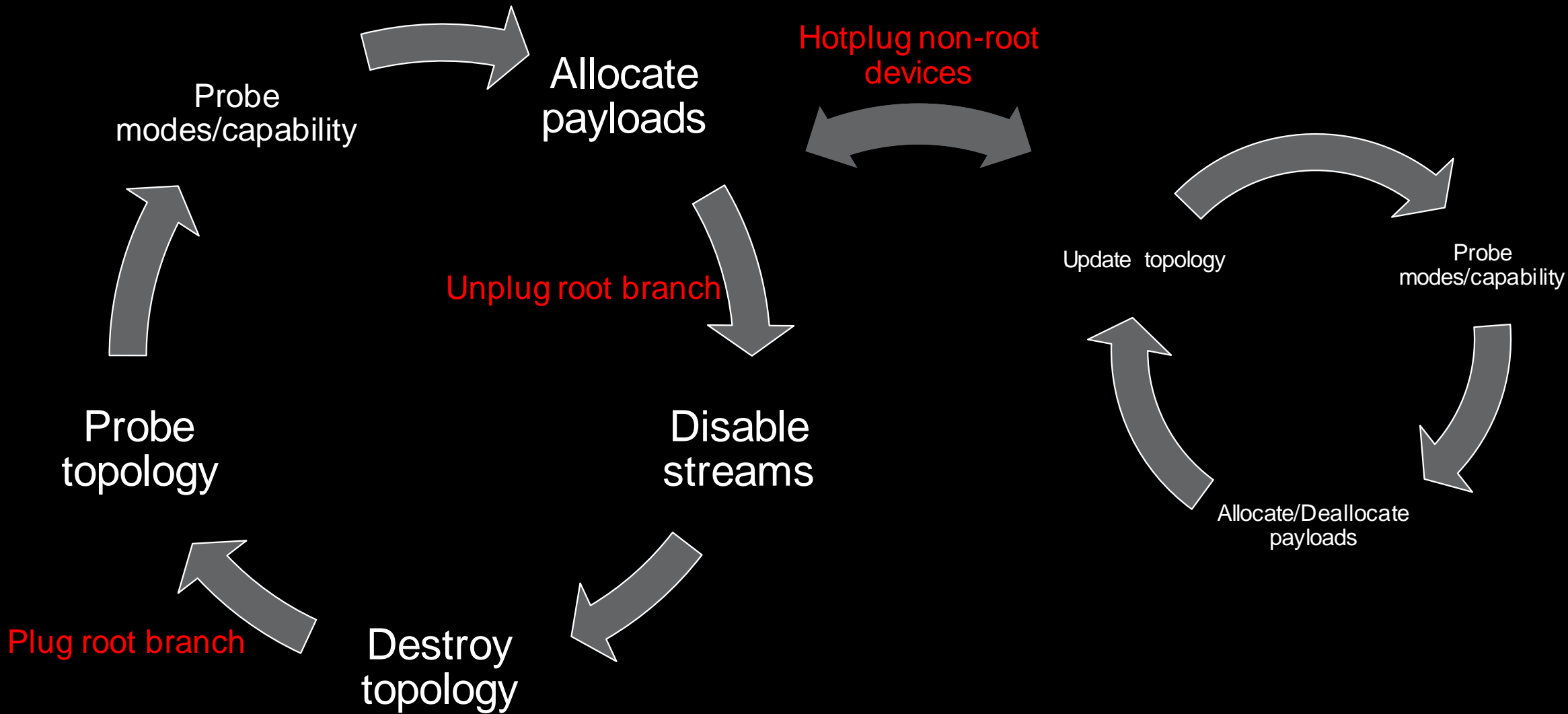
- MST devices use side-band message to request/reply to each other
 - DRM provides helper functions to help construct side-band message
 - Driver sends side-band message to explore topology, read remote port capability and allocate/deallocate payloads

e.g.,

Send ALLOCATE_PAYLOAD message to allocate bandwidth for stream to monitor 3



MST flow in Linux



Progress of enhancement

MST flow

- Fix message header/content construction in DRM
- Avoid messing up allocation table by stale topology
- Enhance peer device detection (i.e. SST branch device)
- Refactor message handling in AMD dm IRQ

DSC

- Consider multi-function enumeration
- Consider DSC while validating modes
- Manipulation of enabling/disabling DSC

DP2.0

- Support time slot allocation for 128b/132b encoding
- Support DSC passthrough

Sustaining

- Add tags to indicate MST flow status
- IGT automated test tool

Demo

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