z/TPF V1.1

2013 TPF Users Group

Hyper Parallel Access Volumes
Supercharging the Future of z/TPF DASD

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AIM Enterprise Platform Software
IBM z/Transaction Processing Facility Enterprise Edition 1.1

Legal Disclaimer

This presentation contains concepts on how z/TPF may use DASD HyperPAV support in the future and are subject to change.

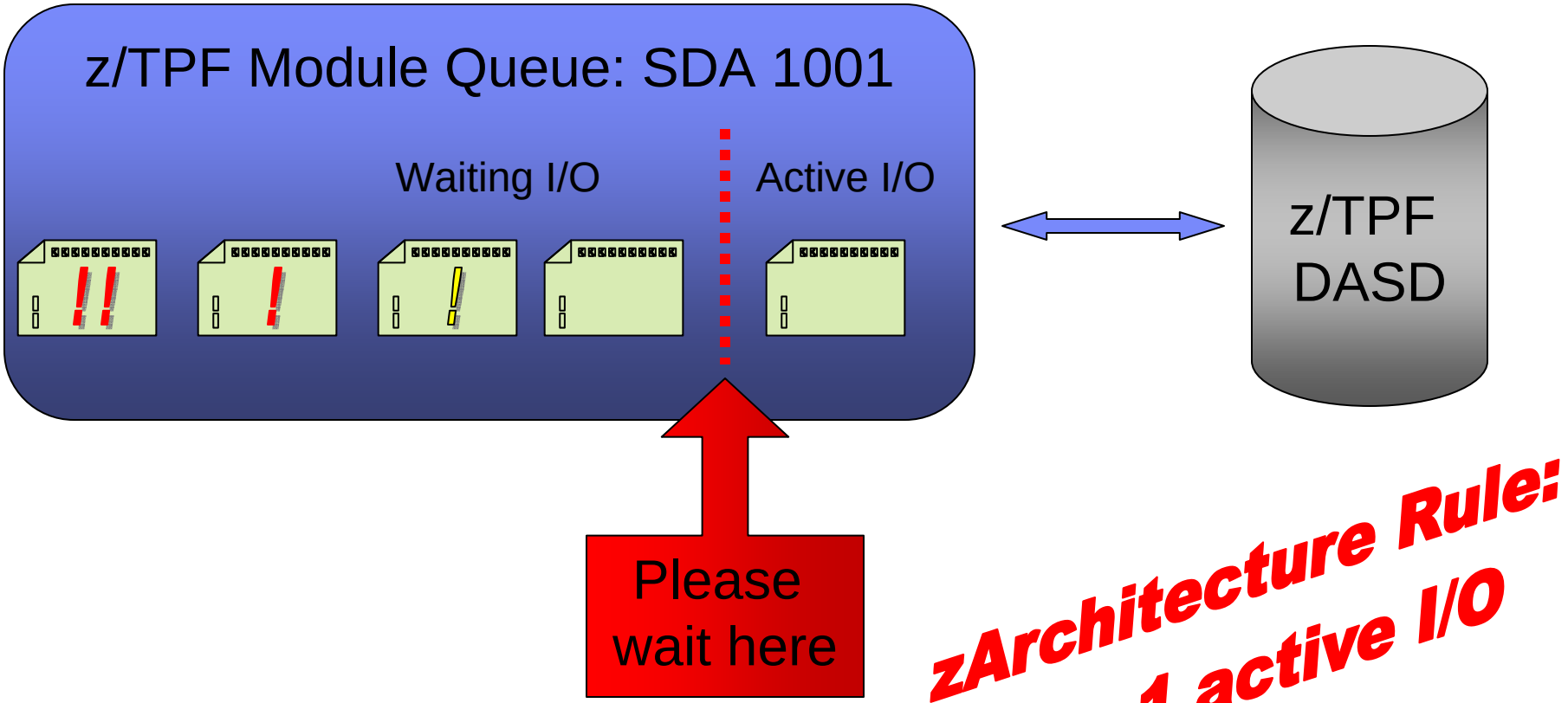
Agenda

- What does HyperPAV do for my z/TPF system?
- How does HyperPAV work?
- How would z/TPF support HyperPAV?

What would HyperPAV do for my z/TPF system?

- **Allow multiple concurrent I/Os to a single DASD volume**
- **Allow z/TPF to start waiting I/O requests before the first I/O in queue completes**
  - Improve DASD I/O throughput
  - Reduce time spent waiting in the z/TPF module queue
  - Allow I/O growth without adding more DASD volumes

Current z/TPF Module Queuing



zArchitecture Rule:
Only 1 active I/O per SDA!

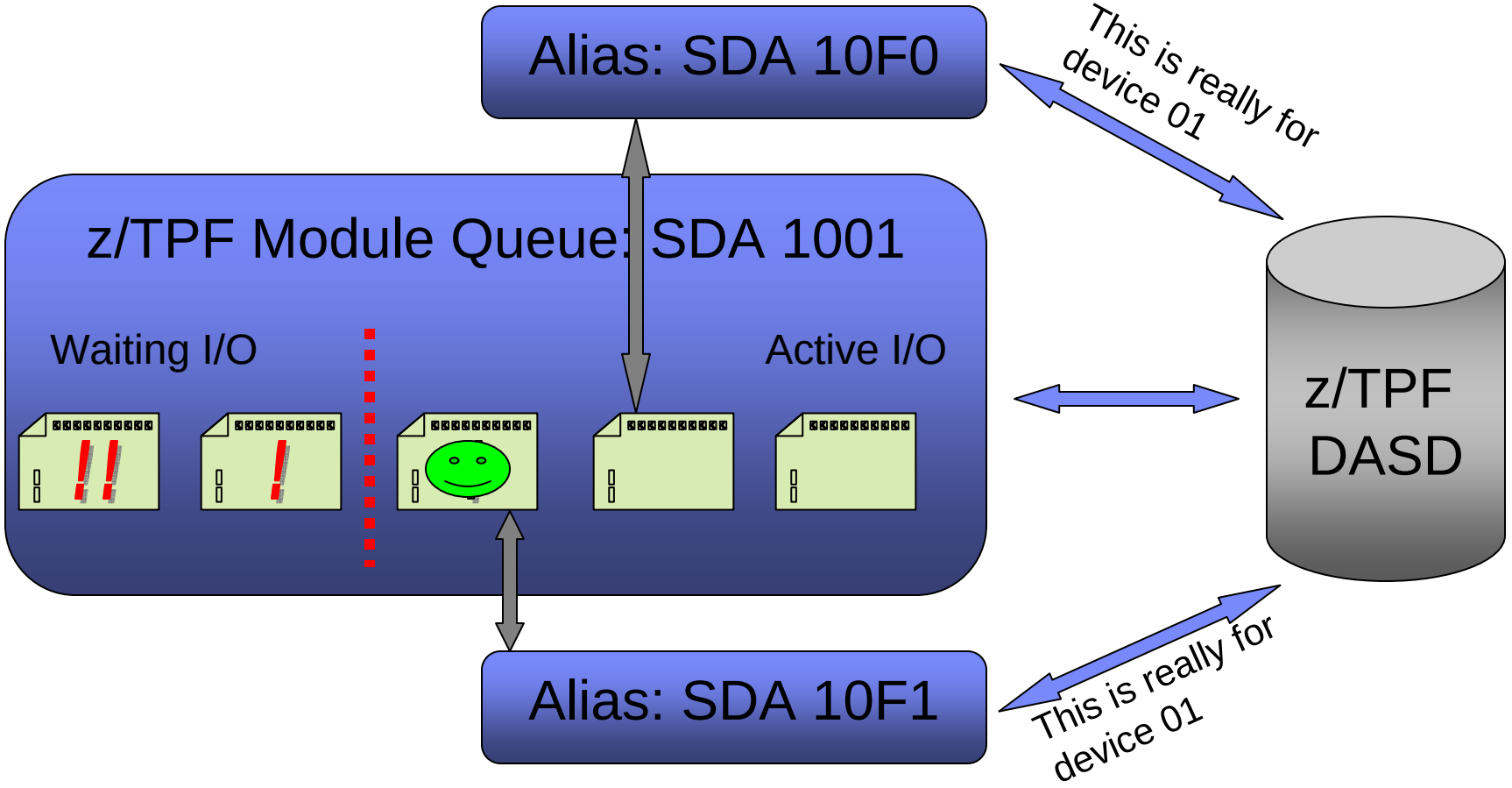
HyperPAV Definitions

- **Definitions**
  - Base Volume: Traditional DASD volume backed by storage
  - Alias: Device without storage used to perform I/O for a base volume
- **Define multiple aliases for each DASD logical subsystem (LSS)**
  - Defined in DASD control unit
  - Assign SDAs to aliases in IOCP

HyperPAV Operation

- **When adding I/O to module queue and base volume has active I/O…**
  - Get available alias
  - Start I/O using alias SDA
    - I/O request contains address of base volume
  - Interrupt comes back on alias SDA
  - Start next waiting I/O or make alias available to other modules
- **Multiple aliases can perform I/O for the same base volume**
- **Aliases perform I/O for any base volume in same LSS**

z/TPF Module Queuing with HyperPAV



How would z/TPF support HyperPAV?

- **HyperPAV will be transparent to applications**
- **Order of I/O will be maintained when necessary**
  - For example: Multiple writes of same record
- **PAV vs. HyperPAV**
  - PAV tightly binds specific aliases to a single base volume (will not support)
  - HyperPAV allows aliases to float among base volumes

What Do I Need to Use HyperPAV?

- **Processor**
  - Any zSeries processor supported by z/TPF
- **FICON connections**
- **DASD control unit that supports zHPF**
  - Check with your vendor for appropriate code and/or hardware levels
  - Enable the LIC feature
- **Future z/TPF Support**

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