IBM Software

Information On Demand 2012

October 21 – 25

Mandalay Bay | Las Vegas, NV

IBM InfoSphere Optim Configuration Manager Makes It Easy to Manage and Control Your Distributed Environment

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Agenda

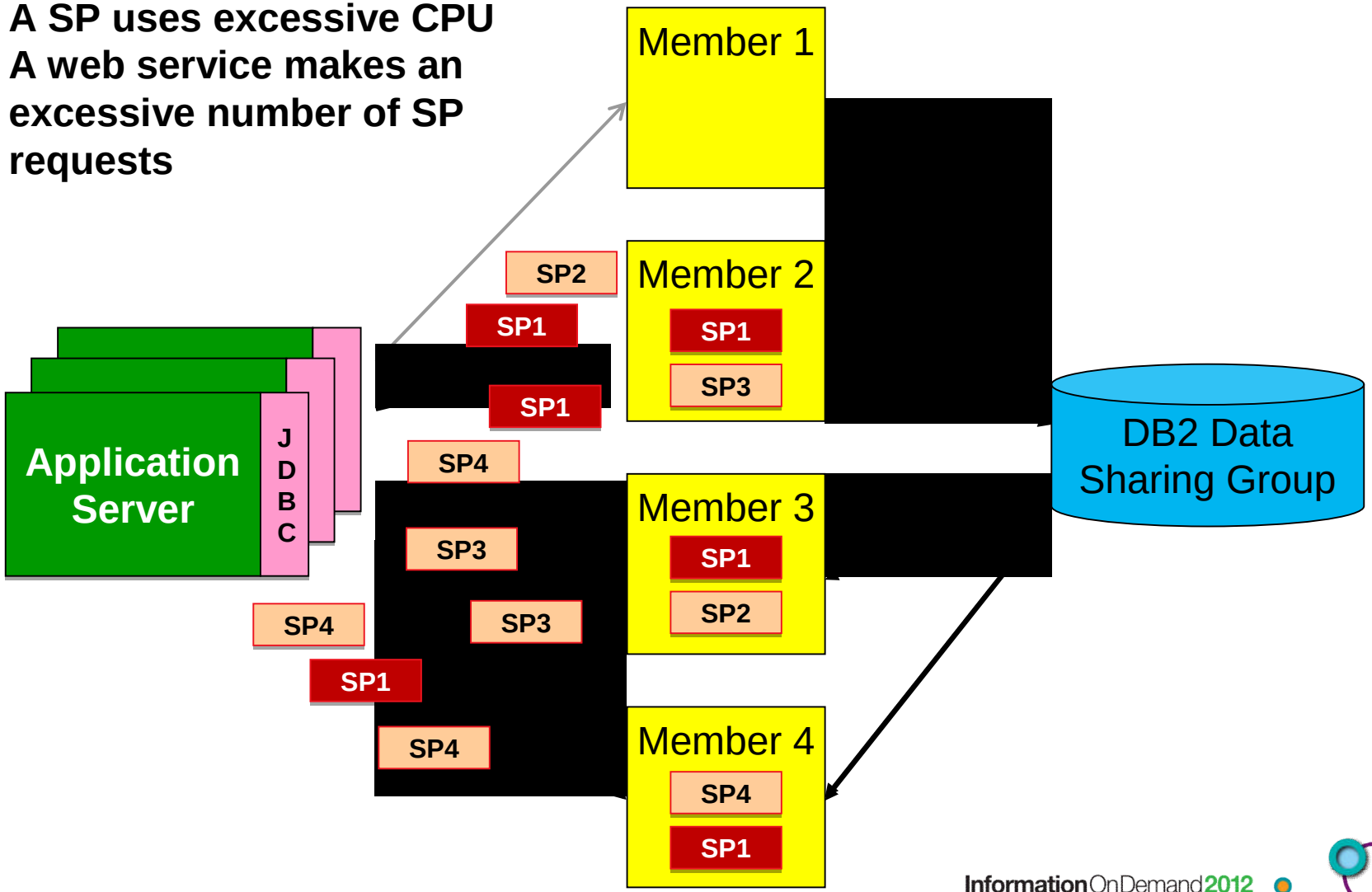
- Top pain points at Fidelity Investments
- Solving pain points at Fidelity Investments using IBM InfoSphere Optim Configuration Manager (OCM)
- OCM - Feature Summary
- OCM - Future Roadmap

Top pain points at Fidelity Investments

Case 1: Bad Behaving SP

Problem:

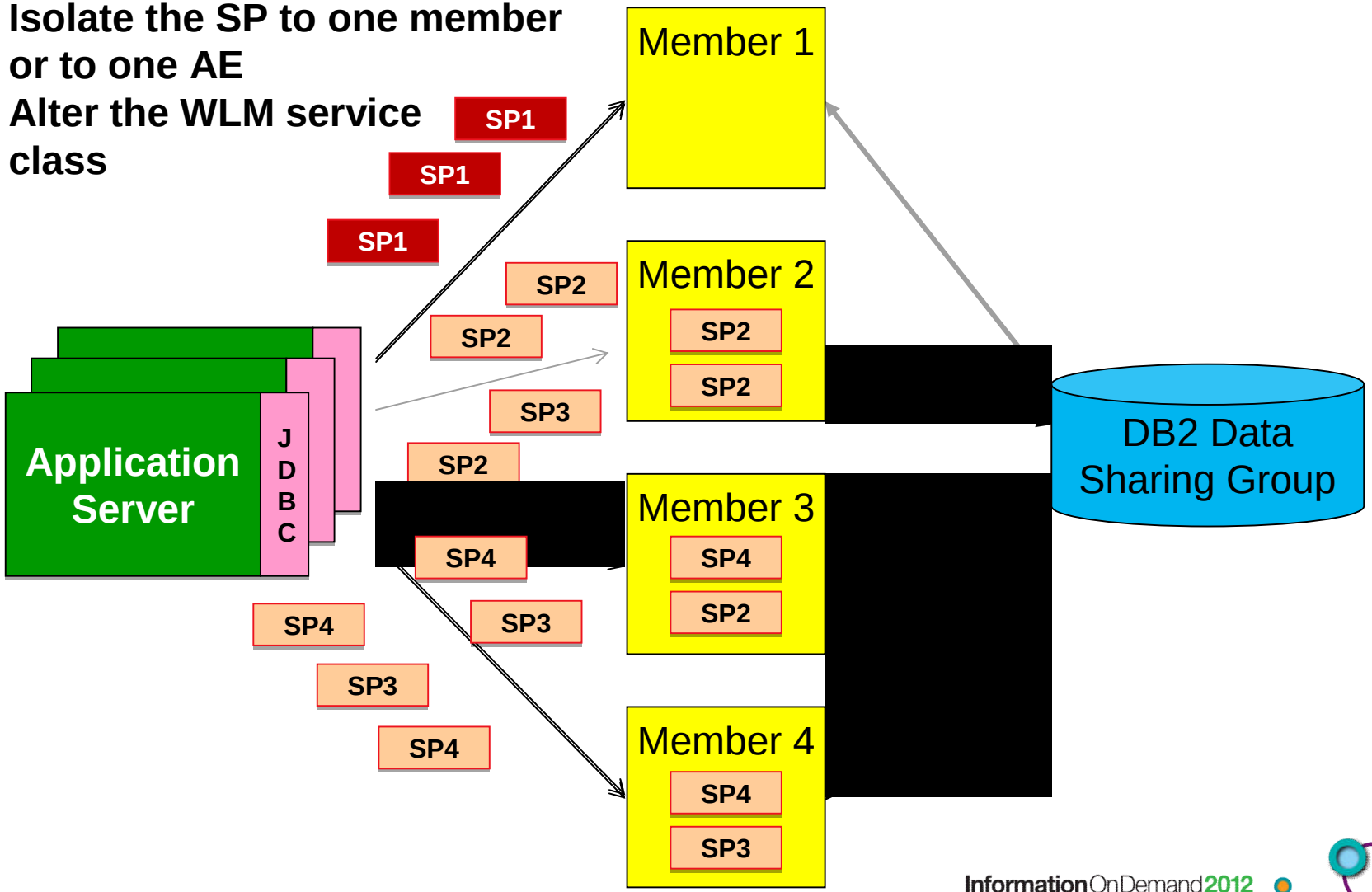
- A SP uses excessive CPU
- A web service makes an excessive number of SP requests



Case 1: Bad Behaving SP

Goal:

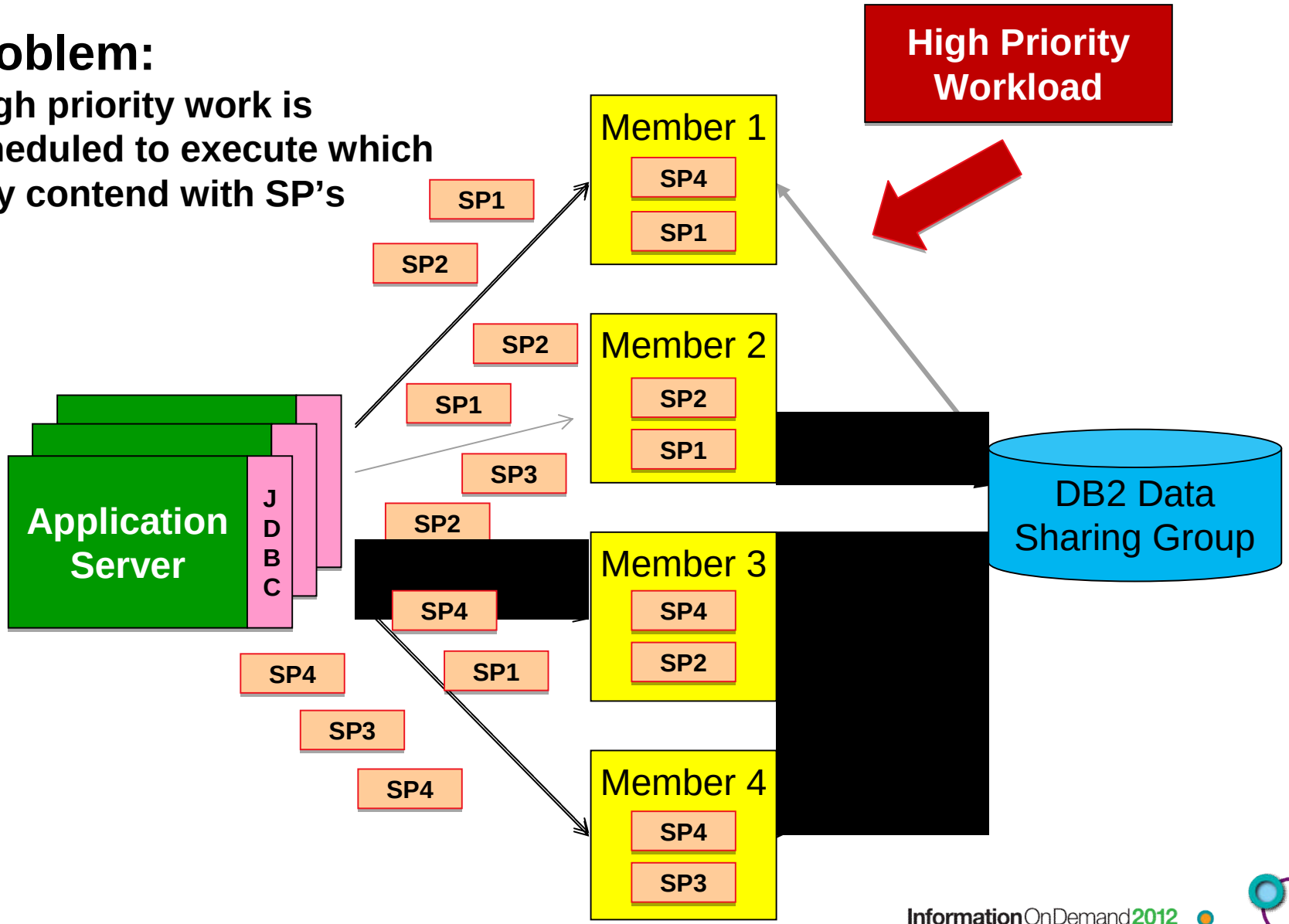
- Isolate the SP to one member or to one AE
- Alter the WLM service
- class



Case 2: High Priority Workload

Problem:

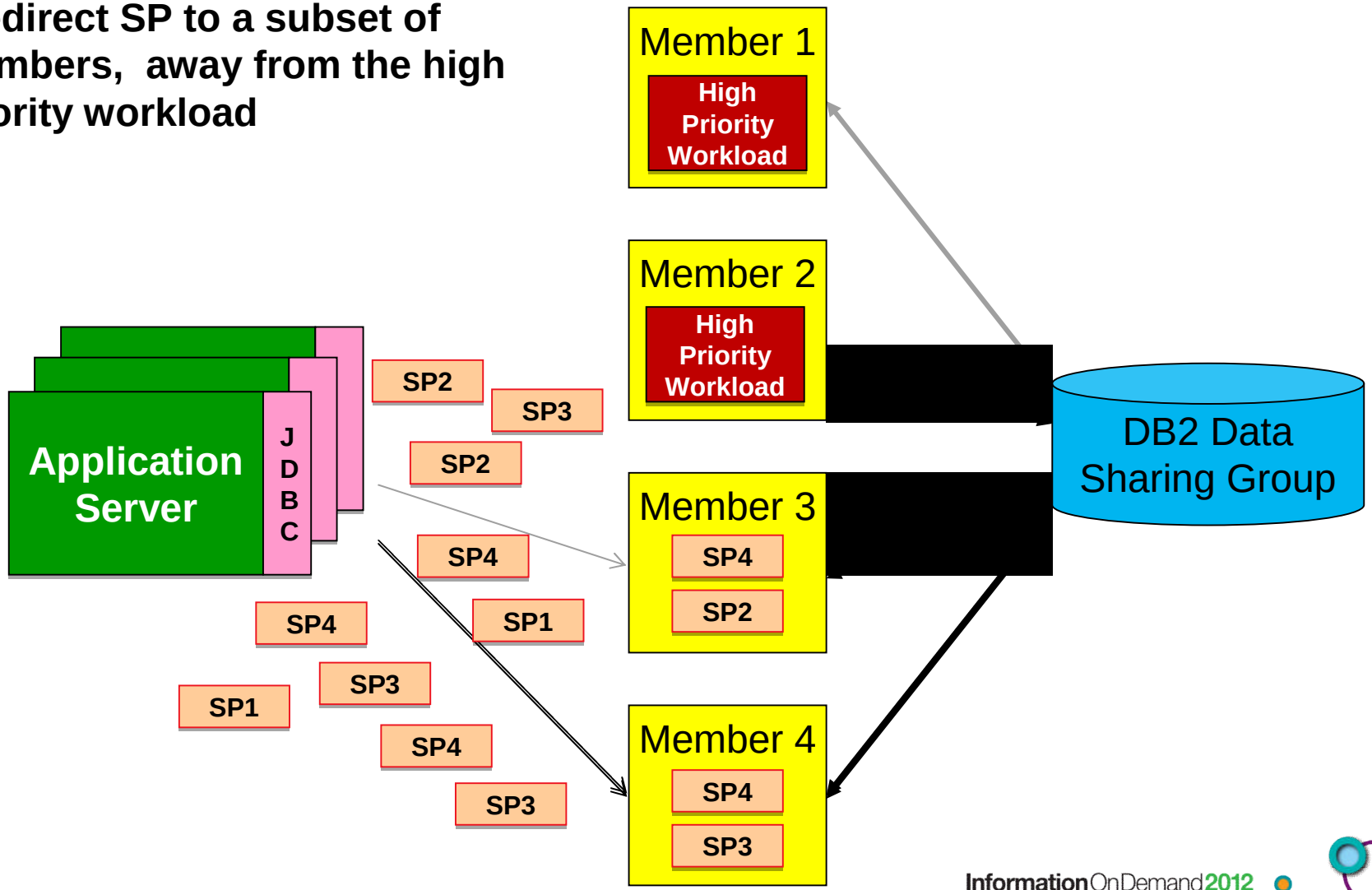
- High priority work is scheduled to execute which may contend with SP's



Case 2: High Priority Workload

Goal:

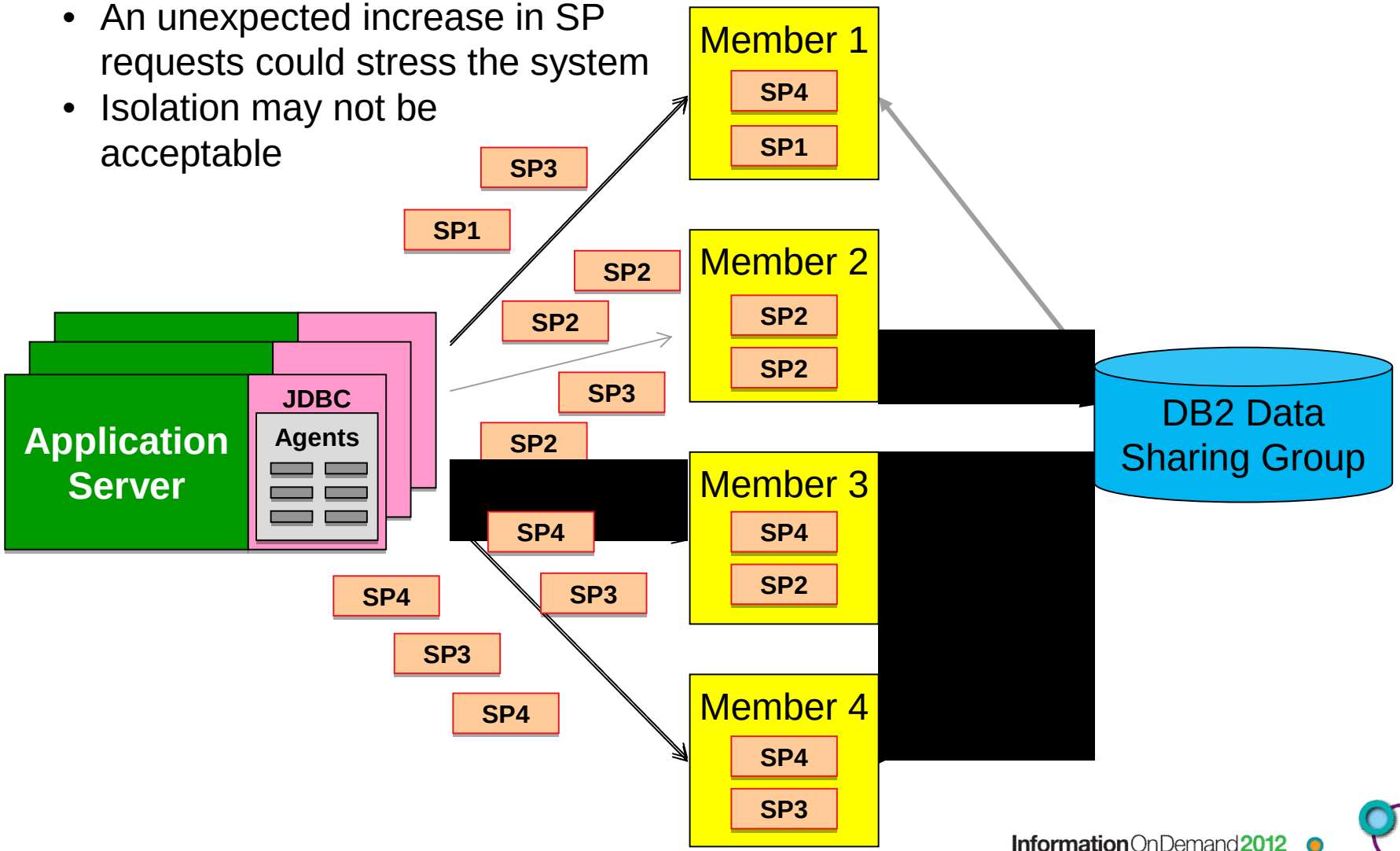
- Redirect SP to a subset of members, away from the high priority workload



Case 3: Tune JDBC Client Workload Properties to Throttle Connections

Problem:

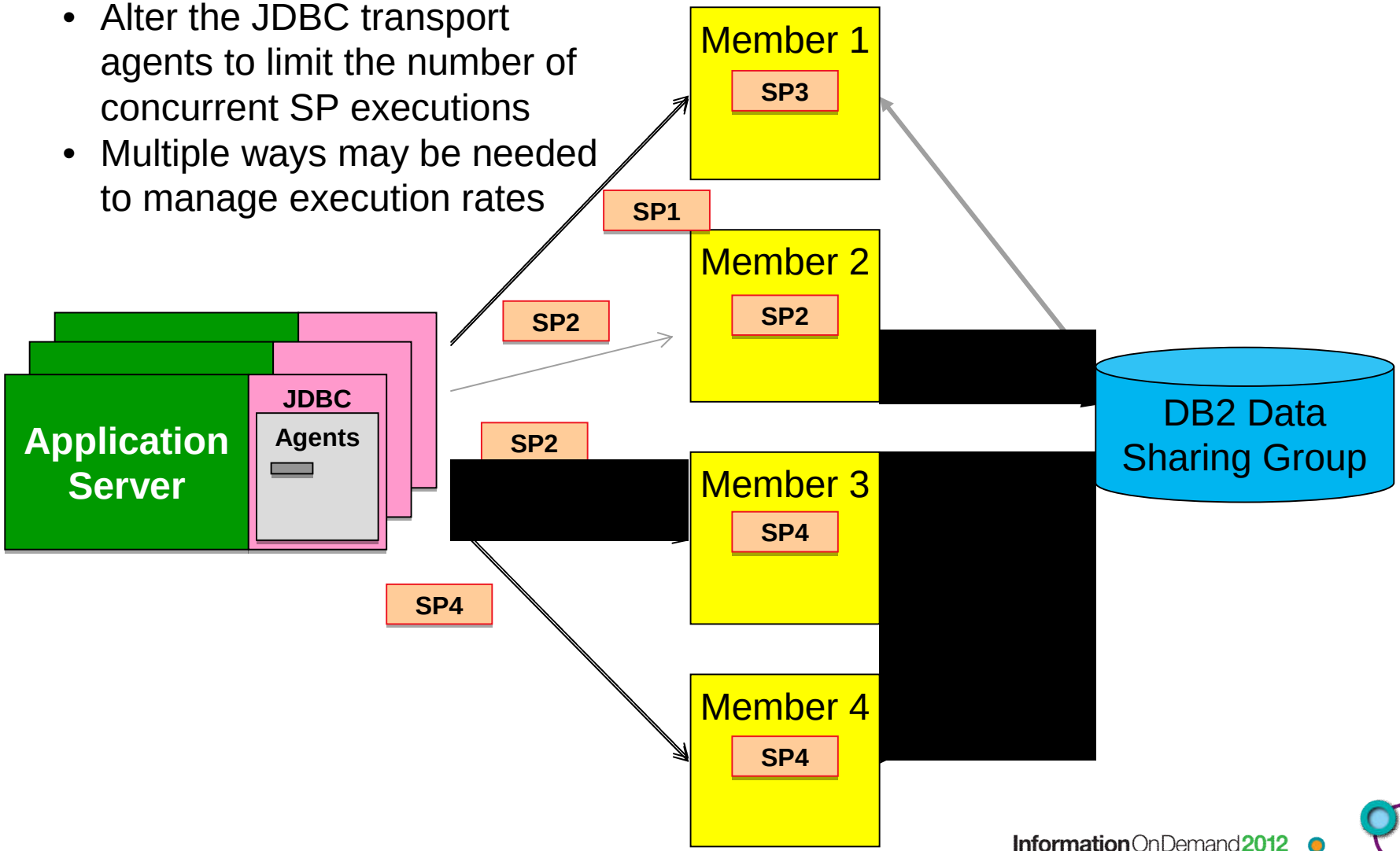
- An unexpected increase in SP requests could stress the system
- Isolation may not be acceptable



Case 3: Tune JDBC Client Workload Properties to Throttle Connections

Goal:

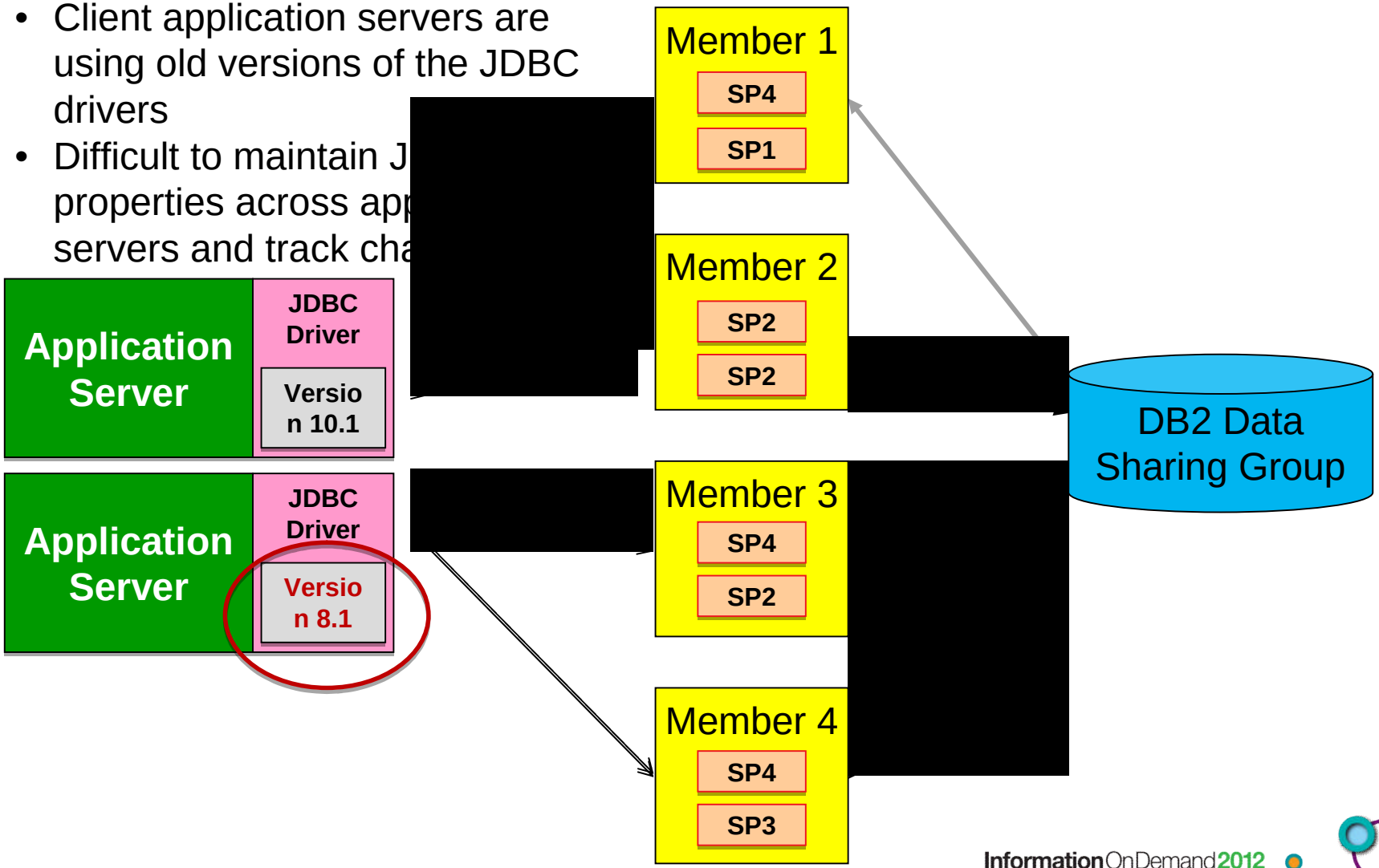
- Alter the JDBC transport agents to limit the number of concurrent SP executions
- Multiple ways may be needed to manage execution rates



Case 4: Manage JDBC Driver Versions and Configurations

Problem:

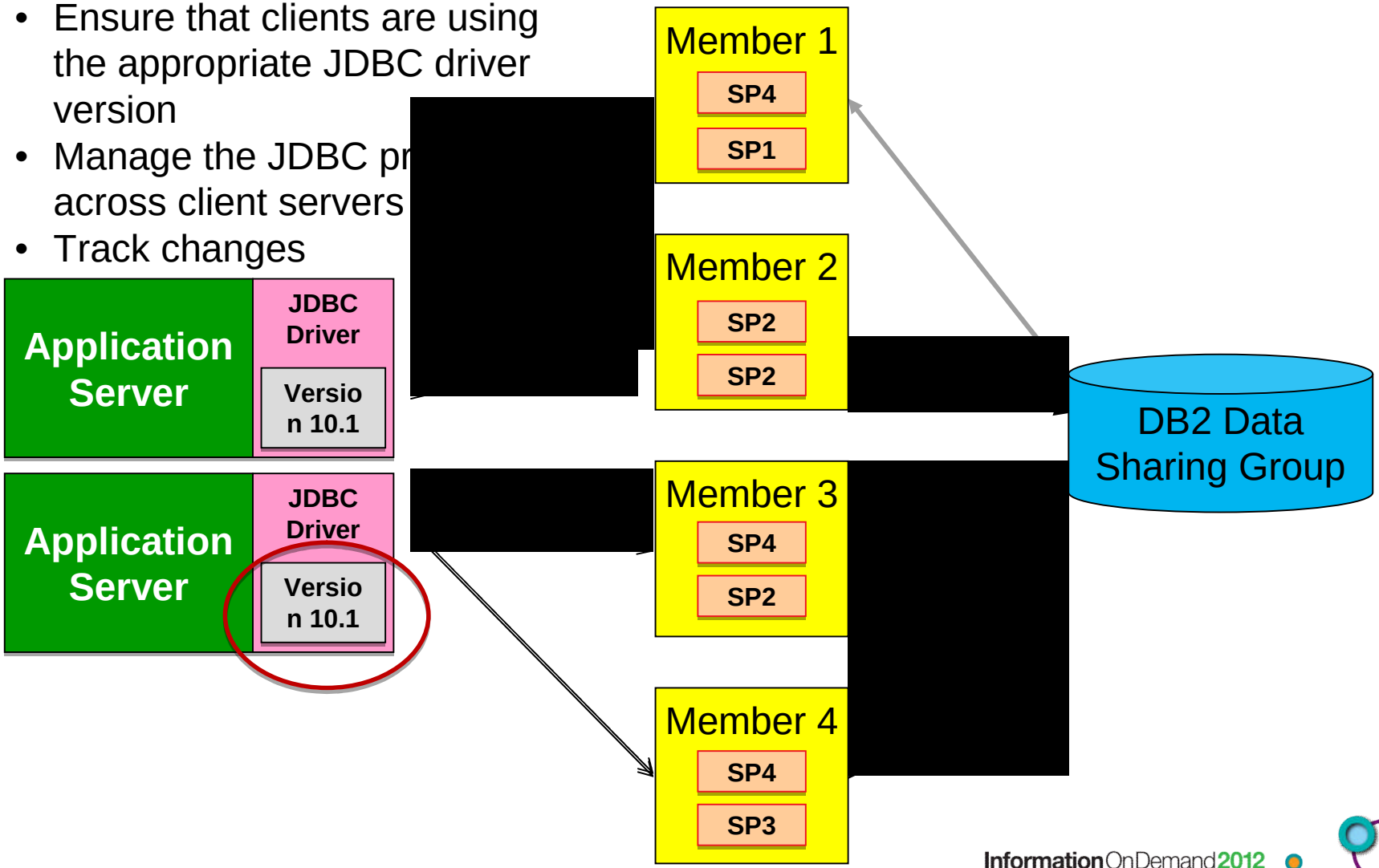
- Client application servers are using old versions of the JDBC drivers
- Difficult to maintain J properties across app servers and track cha



Case 4: Manage JDBC Driver Versions and Configurations

Goal:

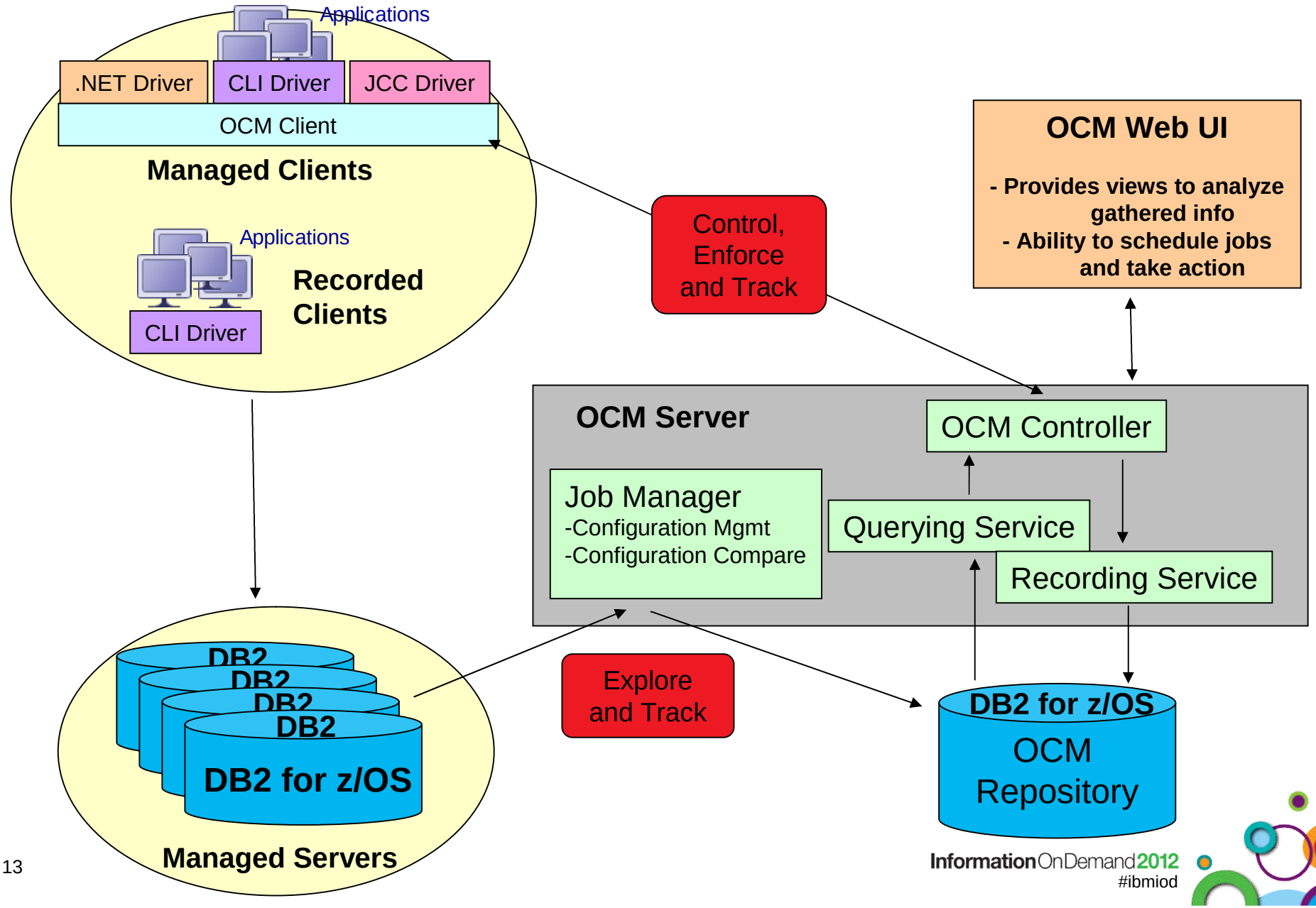
- Ensure that clients are using the appropriate JDBC driver version
- Manage the JDBC pr across client servers
- Track changes



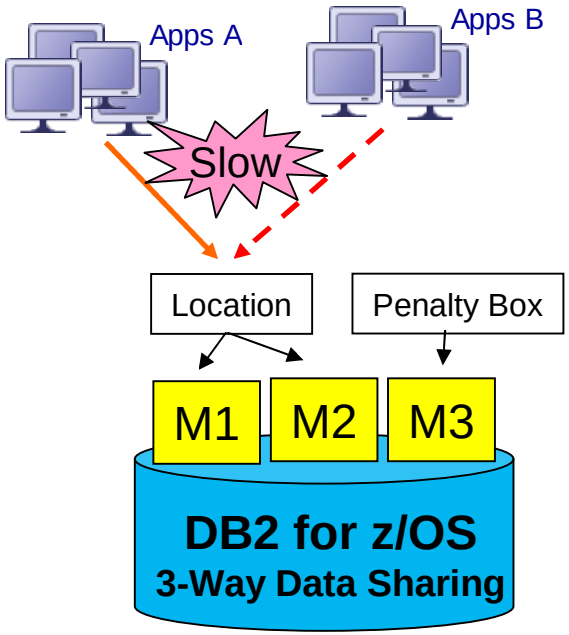
Solving pain points at Fidelity Investments

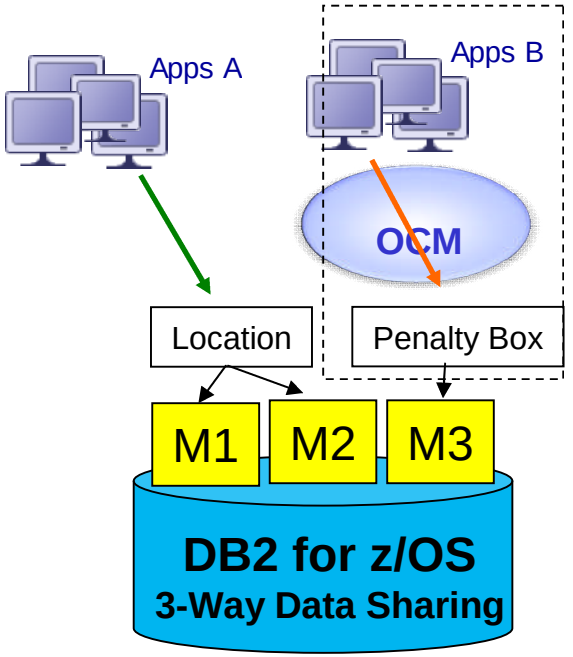
IBM InfoSphere Optim Configuration Manager (OCM)

Architecture



PP #1: Isolate “rogue” Apps or Test “new” Apps





OMPE alerts user that Apps B is using excessive CPU!

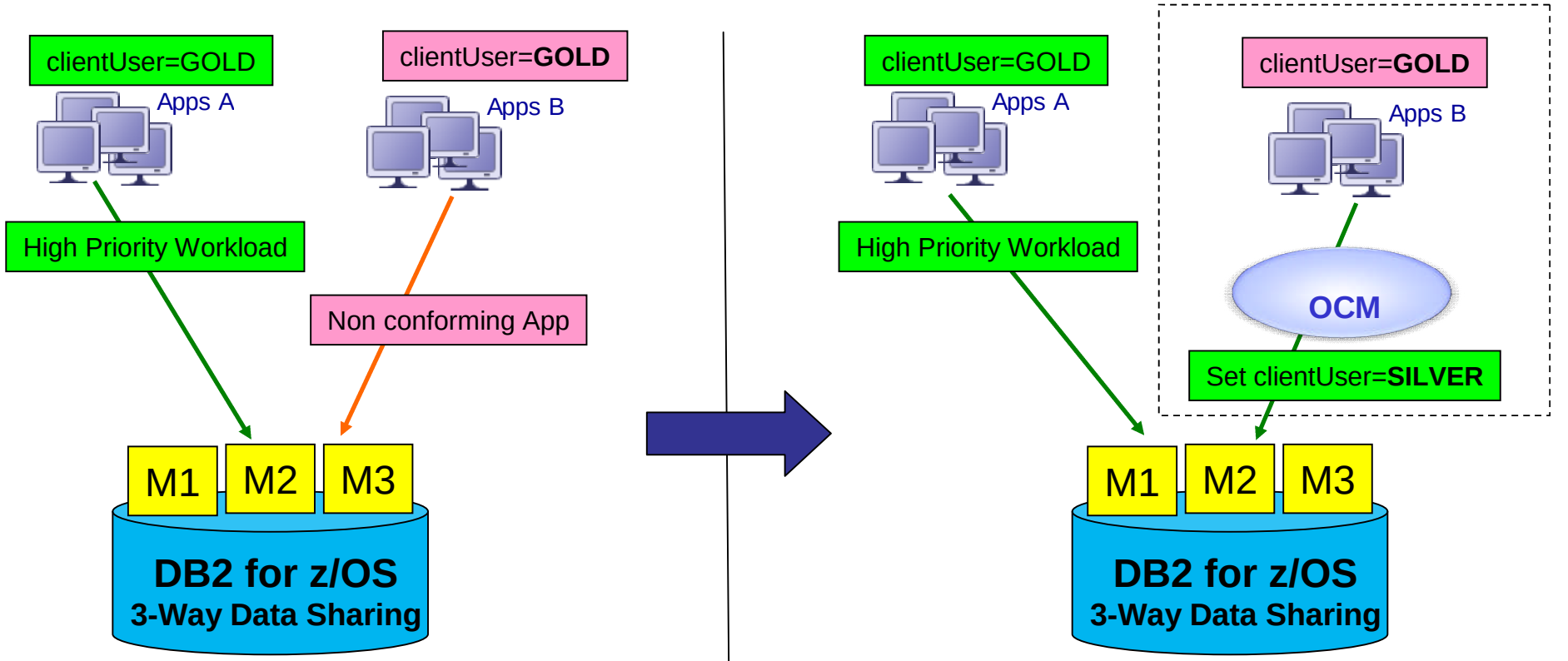
OMPE shows that Apps A is also affected!

OCM isolates Apps B to a restricted environment w/o any outages!

Apps A works as before!

Instantly save costs; allow more time to debug!

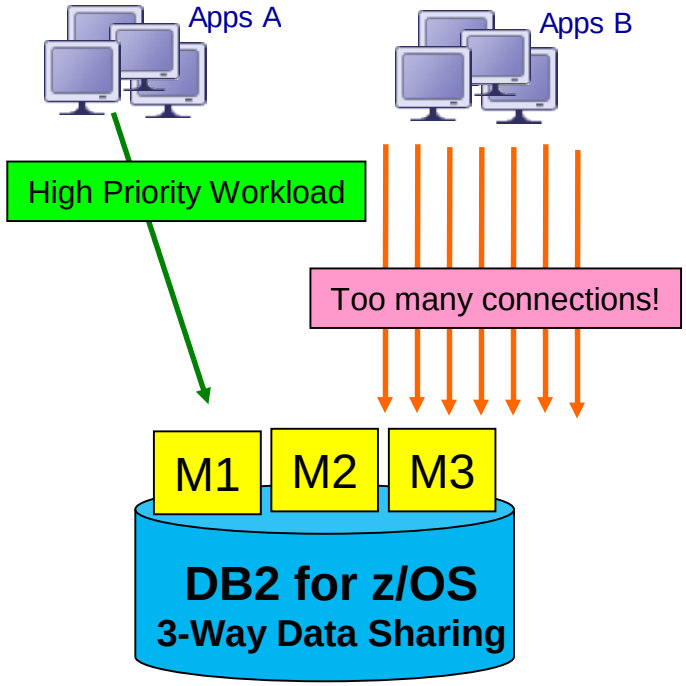
PP #2: Conform Apps to WLM Service Classes

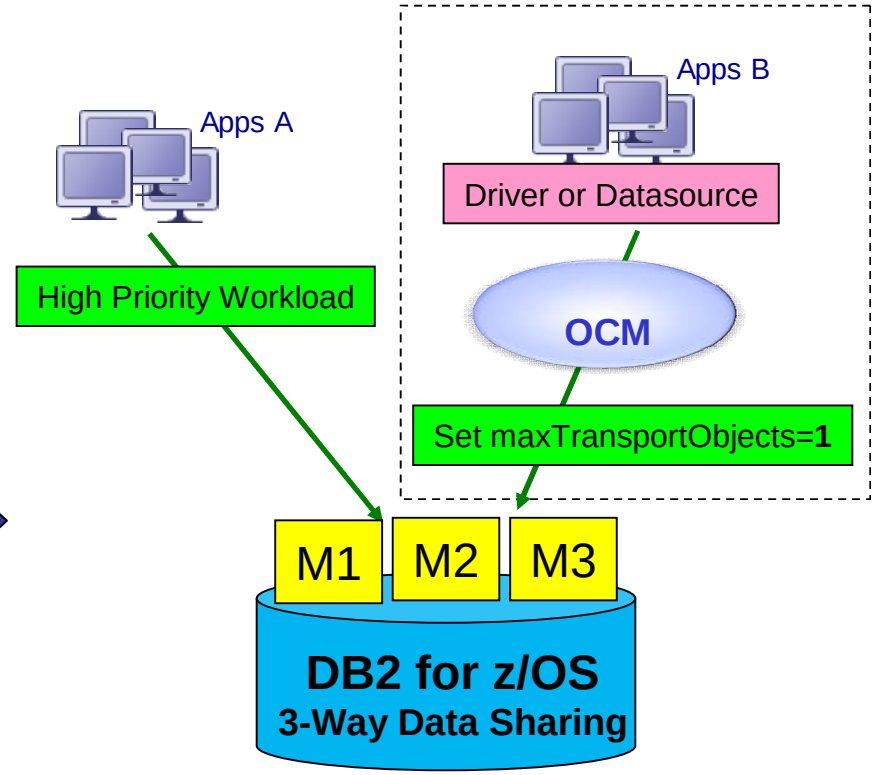


OCM provides a simple interface to find non conforming apps!

OCM allows you to centrally modify/enforce application properties at transaction boundaries!
No application changes or outages are required!

PP #3: Throttle Connections





Apps B opens up too many connections, starving other apps for resources!

OCM allows you to centrally modify/enforce/tune driver and datasource properties!
No application changes or outages are required!

PP #4a: Understand Your Environment

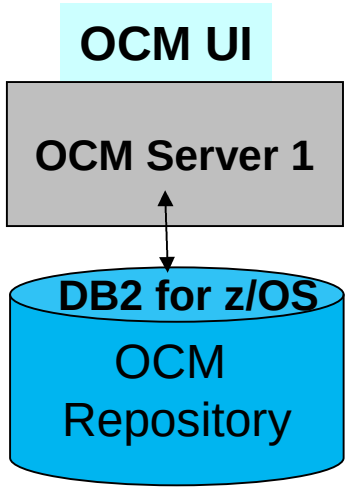
Easily answer questions like …

What is the host-name/IP address of my DB server?

Where are my clients located?

Server Upgrades: What is the **DB version** of each member in my group?

Client Upgrades: What **driver versions** are used by my clients?



Can I find clients that are **non-compliant**? i.e. not setting client accounting string?

What **WAS versions** are currently in use?

What **driver properties** are set for a particular driver?

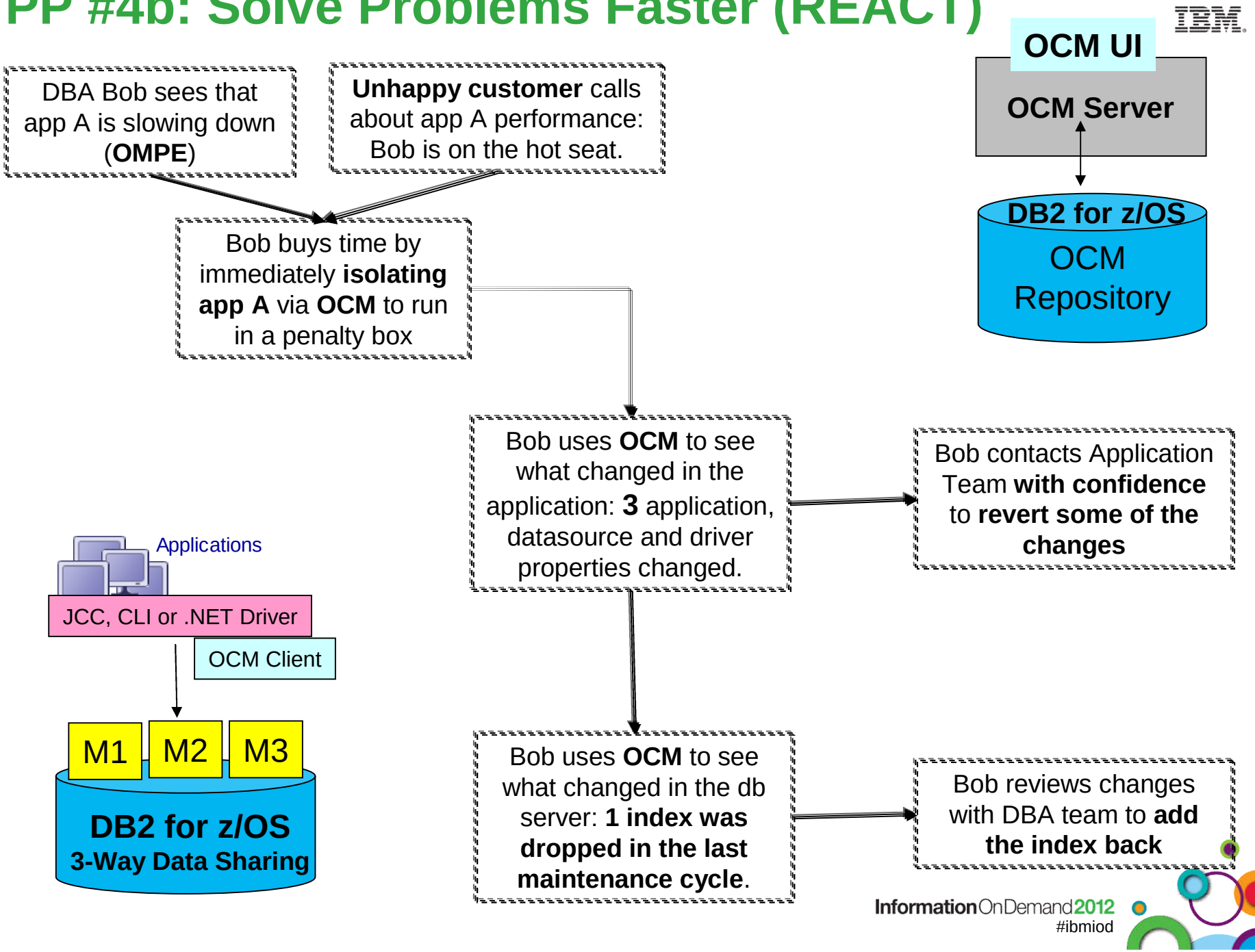
What **data source properties** are set for a particular data source?

Can I build an inventory of data servers & clients over time?

With OCM client install

and more…

PP #4b: Solve Problems Faster (REACT)



PP #4c: Solve Problems Faster (PROACT - 1)

Bob's Environment:
- Two DB2 for z/OS environments (PROD & TEST)
- Two "identical" subsystems in each environment

PROD

DB2 for z/OS
Subsystem A

TEST

DB2 for z/OS
Subsystem A

Bob's Goal:
- **Proactively find** differences in zParms and objects
- **Always keep** both subsystems in synch

Bob uses data already discovered by **OCM** to easily identify the two data server environments

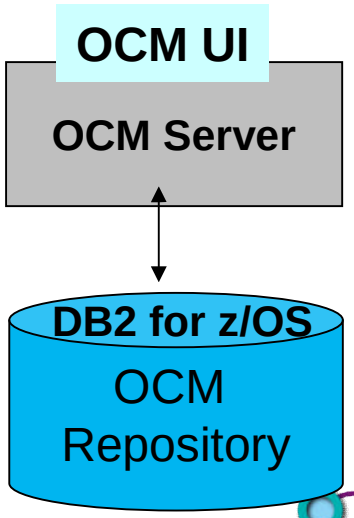
Bob defines a **Compare Job** to run every night against the **OCM** Repository

Bob receives an **Alert: 2** differences found!

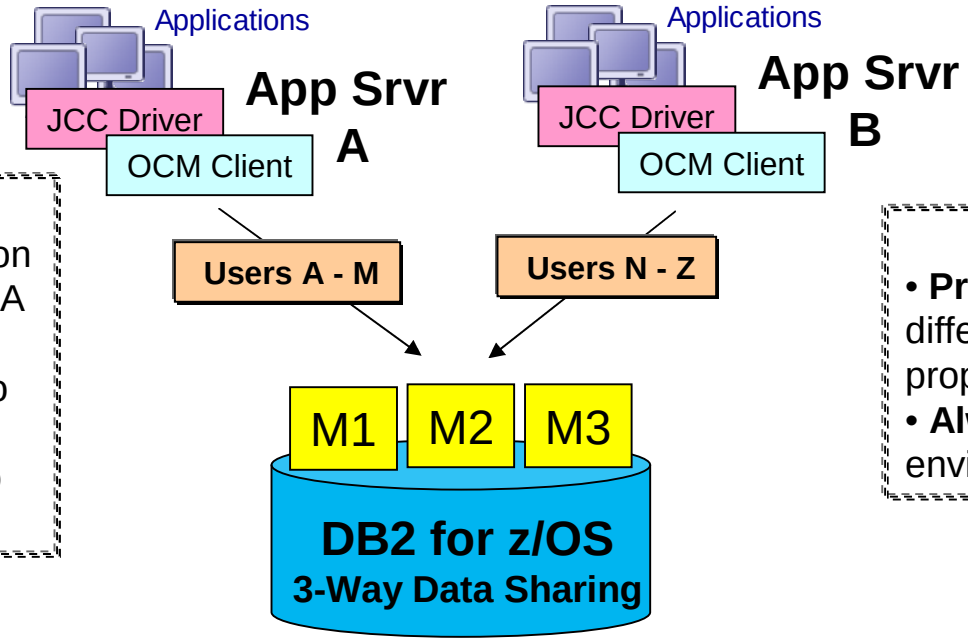
Bob looks at the **OCM report** to discover and take action on:

(a) A **zParm** with different values on the two subsystems

(b) An **index** defined on the same table with different sets of columns



PP #4d: Solve Problems Faster (PROACT - 2)



Bob's Environment:

- Same application runs on two Application Servers (A & B).
- Users A-M are routed to App Srvr instance A
- Users N-Z are routed to App Srvr instance B

Bob's Goal:

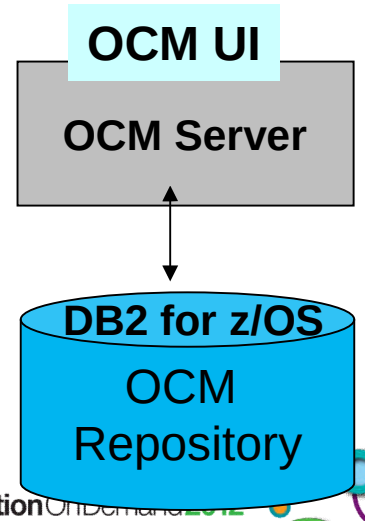
- **Proactively find** differences in Application properties
- **Always keep** both environments in synch

Bob uses data already discovered by **OCM** to easily identify the two client applications

Bob defines a **Compare Job** to run every night against the **OCM** Repository

Bob receives an **Alert: 2** differences found!

Bob contacts the Application Team **with a report** to resolve the differences



Feature Summary

IBM InfoSphere Optim Configuration Manager (OCM)

InfoSphere Optim Configuration Manager

Understand Your Environment

- ***Explore*** client and database server properties
- ***Create*** a baseline inventory of clients for upgrades

Solve Problems Faster

new

- ***Prevent*** problems by scheduling configuration compare jobs that issue Alerts for differences
  - Keep configurations in synch
- ***Debug*** problems faster by reviewing recent changes made to client or server configurations

Control Clients (JCC, CLI, .NET)

new

- ***Isolate/Throttle*** *"rogue" Apps to limit impact on the SYSPLEX*
- ***Enforce*** *best practices configuration – WLM, WLB, WAS Pool*
- ***Redirect*** client connections for high availability or staged roll-out

Note: With OCM client install

Centrally Manage Entire DB2 z/OS Environment

new

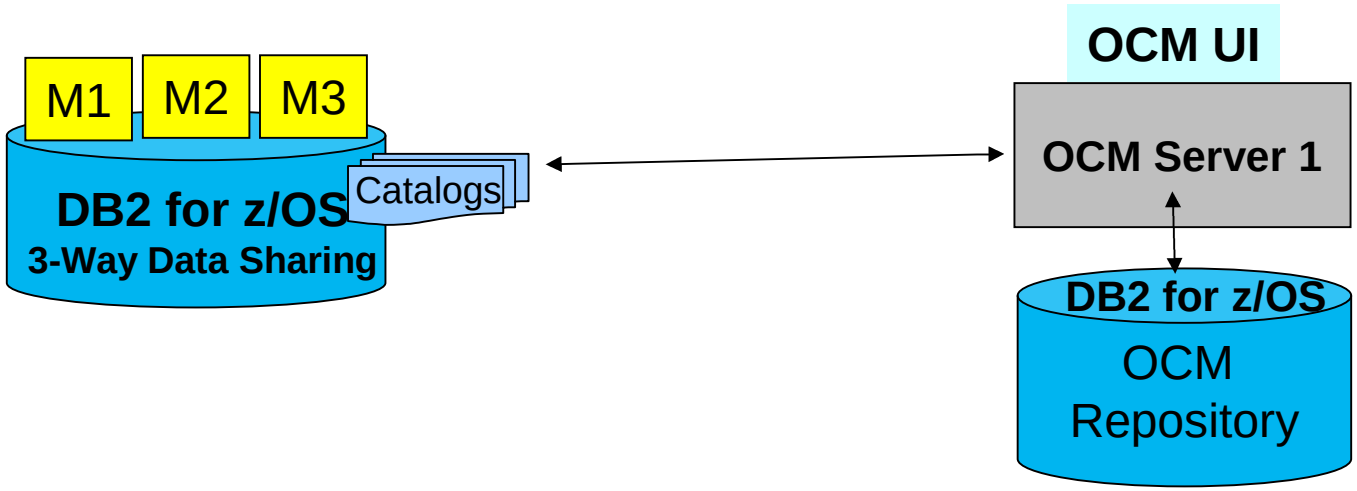
- ***Deploy*** Location Aliases or Application Profiles with DB2 for z/OS v10
- ***Define*** zParms with DB2 for z/OS v9 or DB2 for z/OS v10
- ***Show*** changes made via z Admin Tool and z Admin OC Tool

Key Server Management Tasks

1 Manage Location Aliases (zV10)
- View and Report Status
- Start, Stop, Edit and Cancel

2 Manage zParms setting
- Edit zV9 ONLINE parameters
- Edit zV10 ONLINE parameters

3 Manage Application Profiles (zV10)
- Deploy catalogs, if missing
- Start all, Stop all, View Status
- Easily identify clients using info already discovered by OCM
- Set thresholds to Monitor Connections or Active/Idle Threads – DB2 issues warning/exception



Key Client Management Tasks

1

Continually enforce best practices for efficient resource utilization:

- Map txs to WLM service classes
- Tune driver properties for WLB
- Tune WAS connection pool settings

2

Deploy “new” Apps with confidence
Manage Test Infrastructure with ease

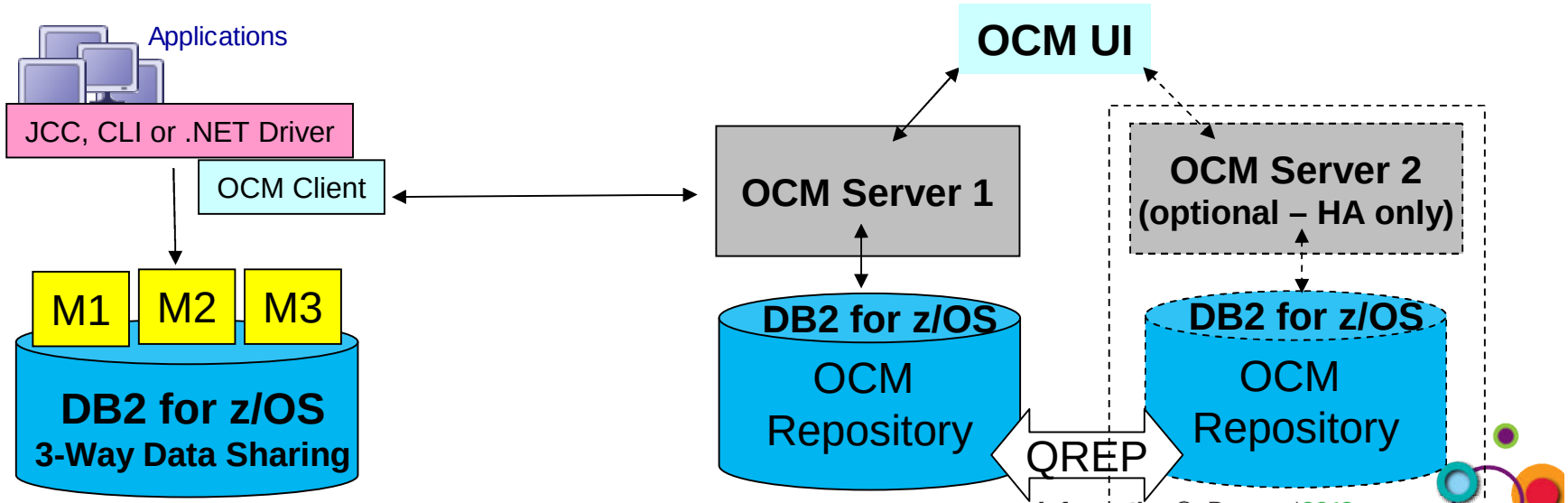
3

Redirect Apps for failover/DR without making changes to App or n/w

4

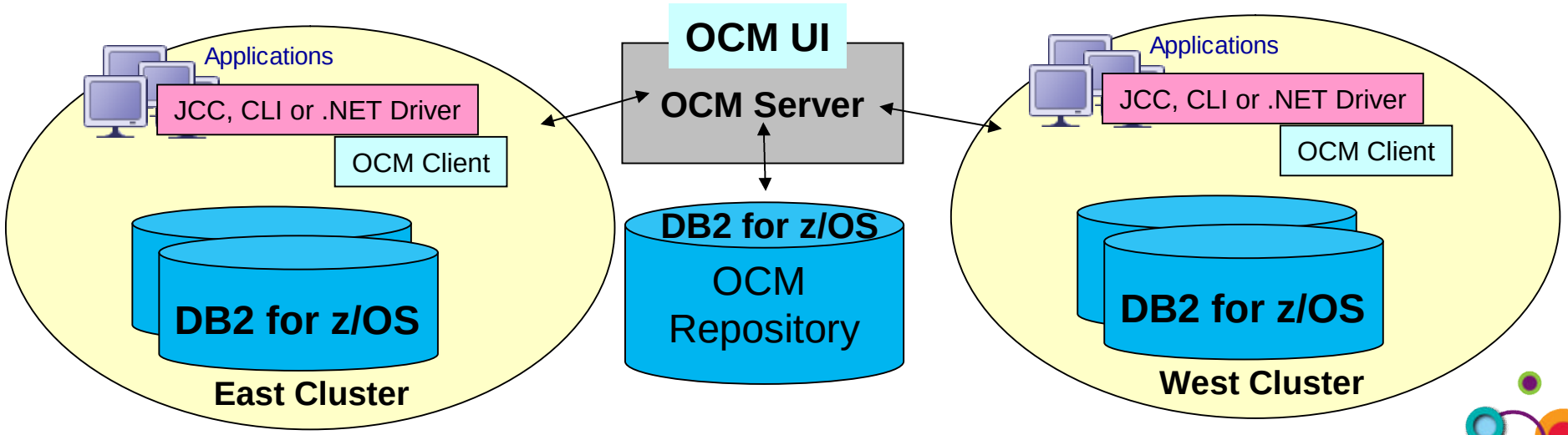
Limit SYSPLEX-wide impact of “rogue” Apps

- Dynamically isolate App txs to run in a limited env w/o outage
- Dynamically throttle App’s connections



Change Management in OCM

1. Ability to tag connections as a set
   - Example, East Cluster vs West Cluster
2. Ability to manage client rules as a set
   - Create a Rule Set with one or more Rules
   - Export rules in a set
   - Get approval via existing CM processes
   - Activate/De-activate **all** Rules in the Rule Set
   - Check status of each Rule
   - Clone a Rule Set - work off-line for easy modification



Future Roadmap

IBM InfoSphere Optim Configuration Manager (OCM)

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VNext and Beyond – not a commitment

- Focus on improving usability and performance
- Support new features in DB2 zV11
- Tune IDAA query acceleration
- Improve security management
- Allow control over more driver properties – both static and dynamic
- Provide more analytics on statistical data already gathered from the driver or WAS
- Remotely control JCC trace

VNext and Beyond – not a commitment – contd.

- Compare two or more configurations (1-N)
- Compare two data sharing configurations
- Clone a new configuration from an existing one
- Synchronize database connection properties across all tools in the enterprise
- Build a registry of tools – identify tools with older versions needing migration
- Centrally enforce best practice database connection properties across all tools e.g. isolation level
- Simplify OCM client-side deployment

Communities

- **On-line communities, User Groups, Technical Forums, Blogs, Social networks, and more**
  - Find the community that interests you …
    - **Information Management** **bit.ly**/InfoMgmtCommunity
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    - **Enterprise Content Management** **bit.ly/**ECMCommunity
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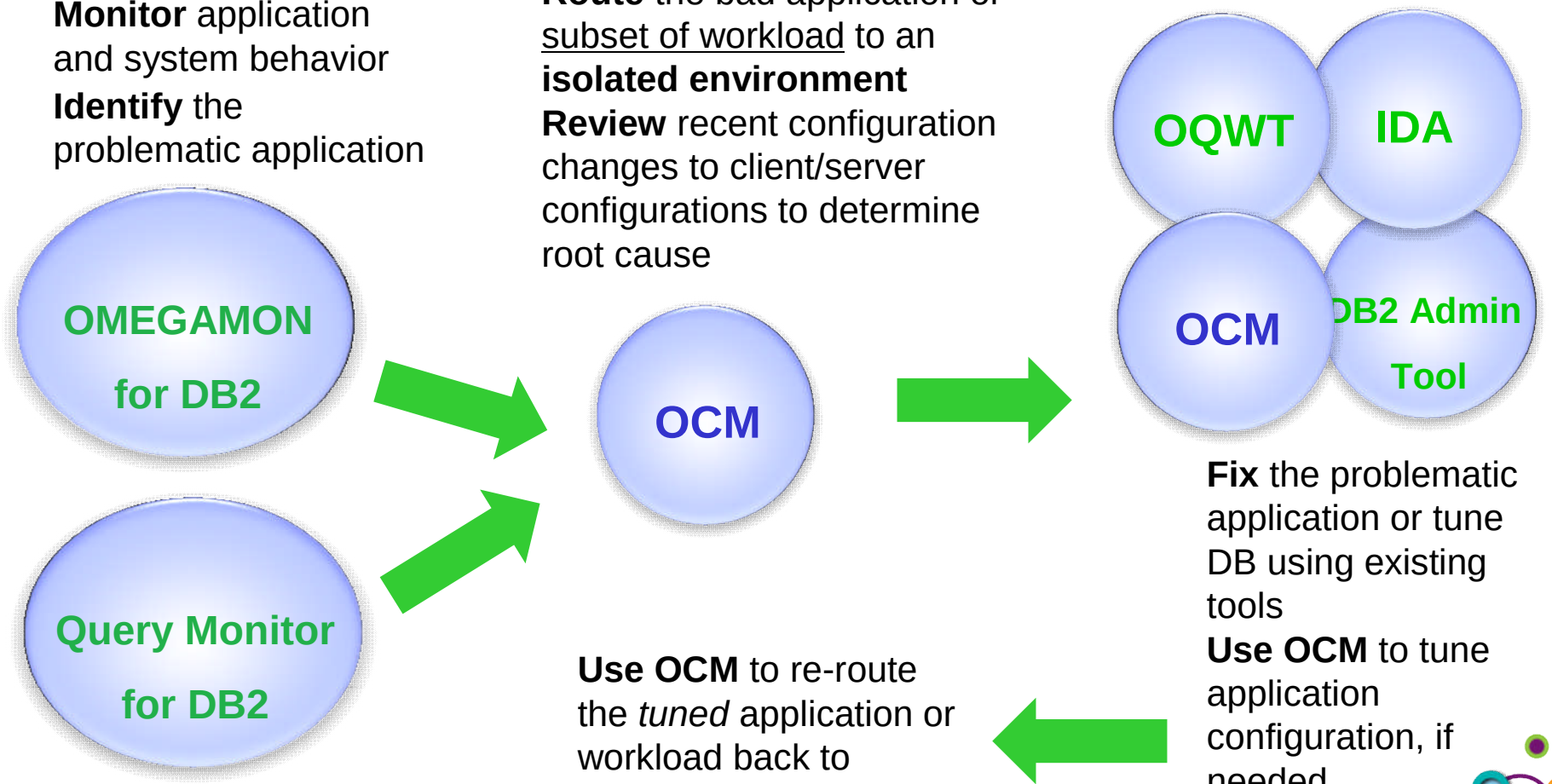
Backup

Scenario (DB2 for z/OS): Bad App identified by OMEGAMON for DB2 or Query Monitor for DB2

Monitor application and system behavior
Identify the problematic application

Route the bad application or subset of workload to an **isolated environment**
Review recent configuration changes to client/server configurations to determine root cause



Fix the problematic application or tune DB using existing tools
Use OCM to tune application configuration, if needed

Use OCM to re-route the *tuned* application or workload back to production environment

OCM – DB2 for z/OS Admin Tool Integration

Key Use Cases

1. **Problem Determination** – quickly determine what changed in the environment, who changed it, what DDL was used, and when
2. **Reporting** – generate a report of all changes
3. **Cross-environment Validation** – prevent issues by validating that the same change was correctly made on all subsystems