Advanced Business Partner

Global WebSphere Community

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MQTC

Simple Access to Important Information

Avada Software Feedback Monitoring for MQTC 2013

Avada Software Markets Infrared360

A complete, integrated, secure, collaborative *portal* which facilitates logical, virtual environments to aid with problem determination, administration, monitoring, testing, auditing and statistical reporting for Message Oriented Middleware:

WebSphere MQ, Tibco-EMS, Hornet-MQ

WebSphere Application Server, JBoss, and/or TC Server

WebSphere Broker, IBM DataPower, Files, Web Services, Databases

- Providing information and solutions to business units;

HOW they want it, WHEN they want it!

Metrics For Business Units

What I'm NOT planning to talk about:

- Metrics derived from 'application programs'
  - *Good for tuning specific applications, but meaningless to overall business unit objectives*.
- Metrics derived from 'system performance'
  - *Good for tuning specific server performance, but meaningless to business units.*
- Metrics derived from 'system tuning' parameters
  - *Good for tuning specific system types, like MQ, but meaningless to business units.*
- Metrics for "proper" tuning
  - *Those easily defined by the vendor (i.e. IBM) as the proper system tuning attributes.*

What I plan to talk about:

- The things that help your business units understand the real patterns of their business transactions
- What associated monitoring thresholds are valid for that specific business application.

Metrics For Business Units

Feedback Monitoring – Working with Business Units to Determine Business Application SLA Criteria

Topics:

1. Dangerous assumptions planning thresholds for new business applications

2. Best practices for planning threshold management for new business applications

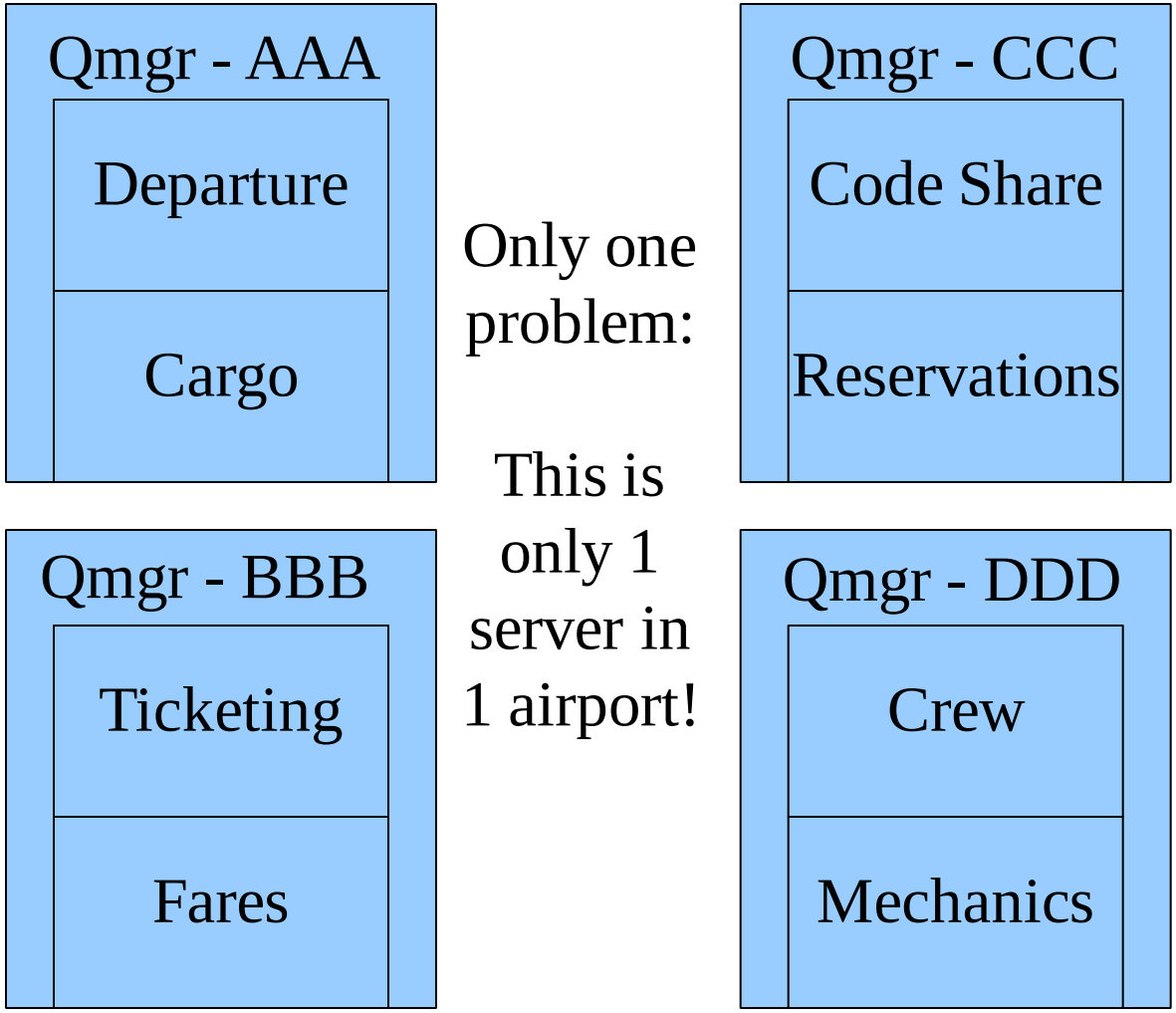
Business Scenario

- Airline promotes new E-Travel wallet application.
- New application is actually a business partner application front ending for the airline system.
- Business unit announces new application, but not details.
- Business unit understands that middleware group has handled this type of data transaction before.*just send it to them.
- Business unit and middleware group do not meet to review new application criteria, only details of middleware objects needed to process new application
- Business unit assumes similar thresholds will monitor *this* application the same way; "**this one's not too different**!"

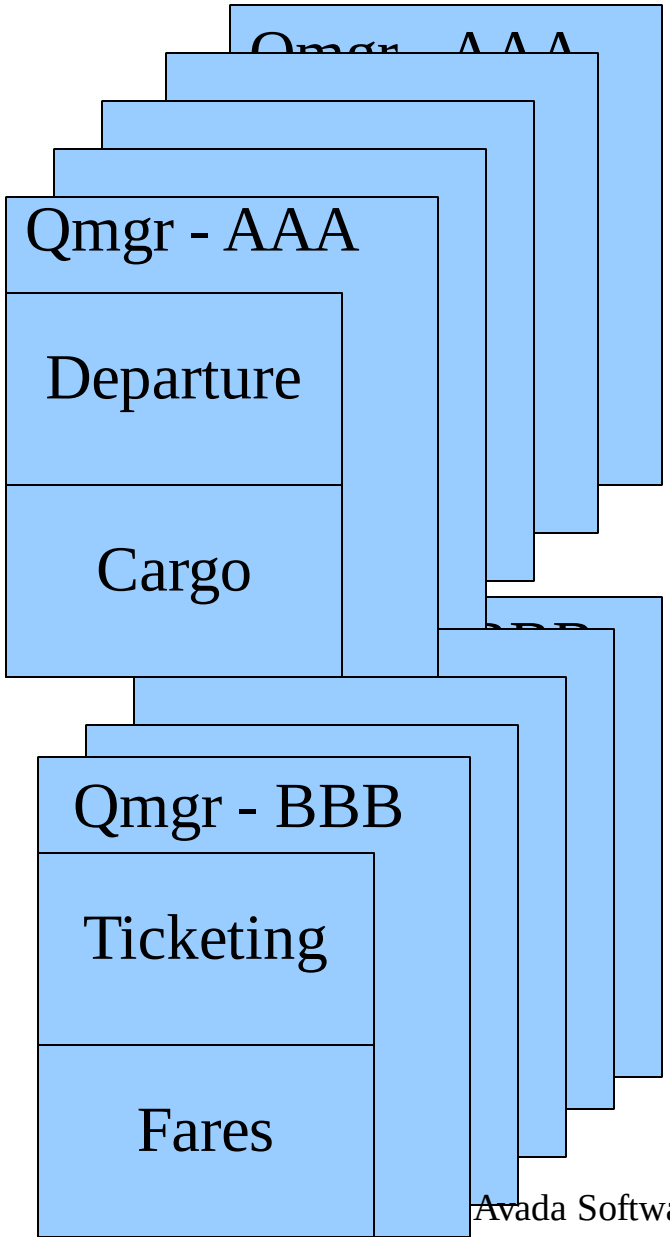
Example Application Environment

- Multiple Queue Managers, with multiple Queues associated with “each” different business application.
- Different business applications exist on the same Queue Managers - in order to leverage full server capabilities.
- Different applications built by different business units, different development staff, different business requirements, different system footprint - all on same Queue Managers !
- Administrators assume similar thresholds will monitor *all* of the different applications the same way; “**this one’s not too different**!”

Example Application Environment



Example Application Environment

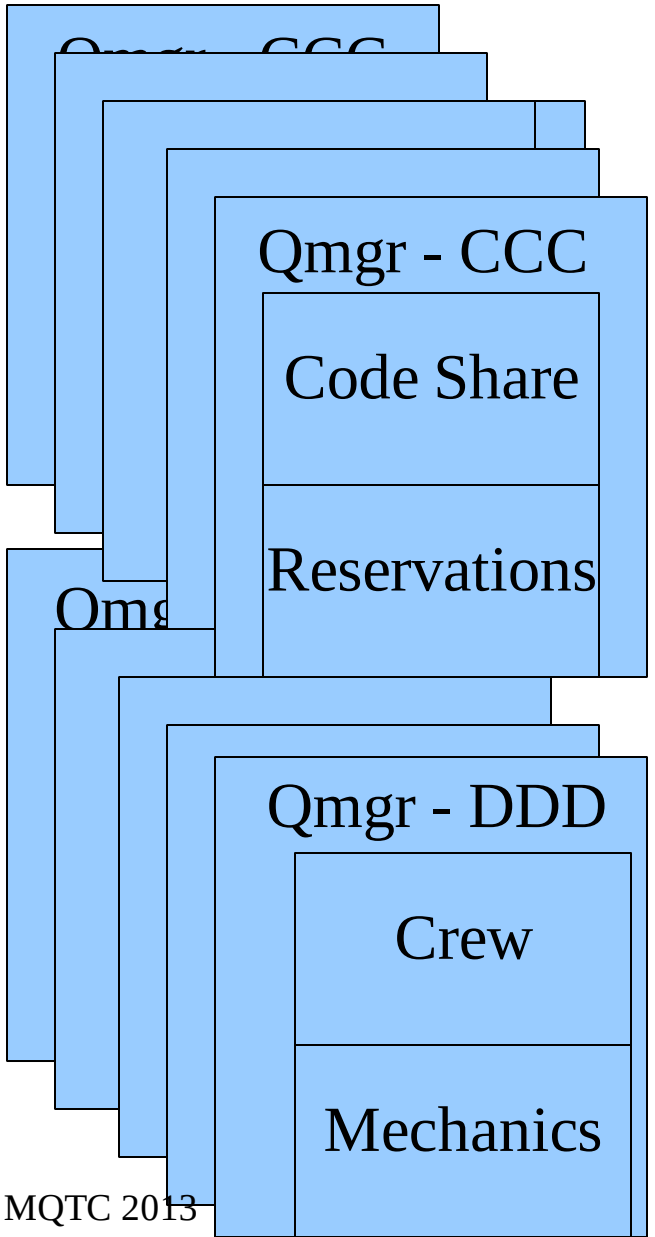


Let's Multiply!

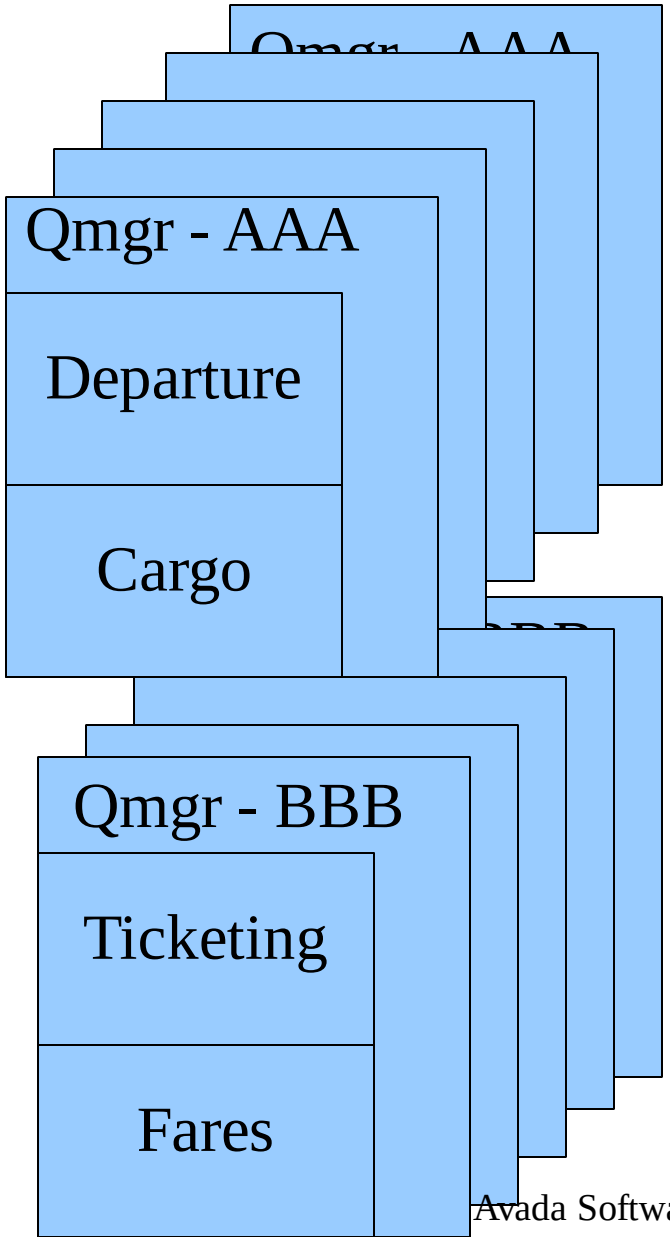
Fare Quotes are being processed by all endpoints.

Typically Overlooked:

Are there other apps running on those endpoints?



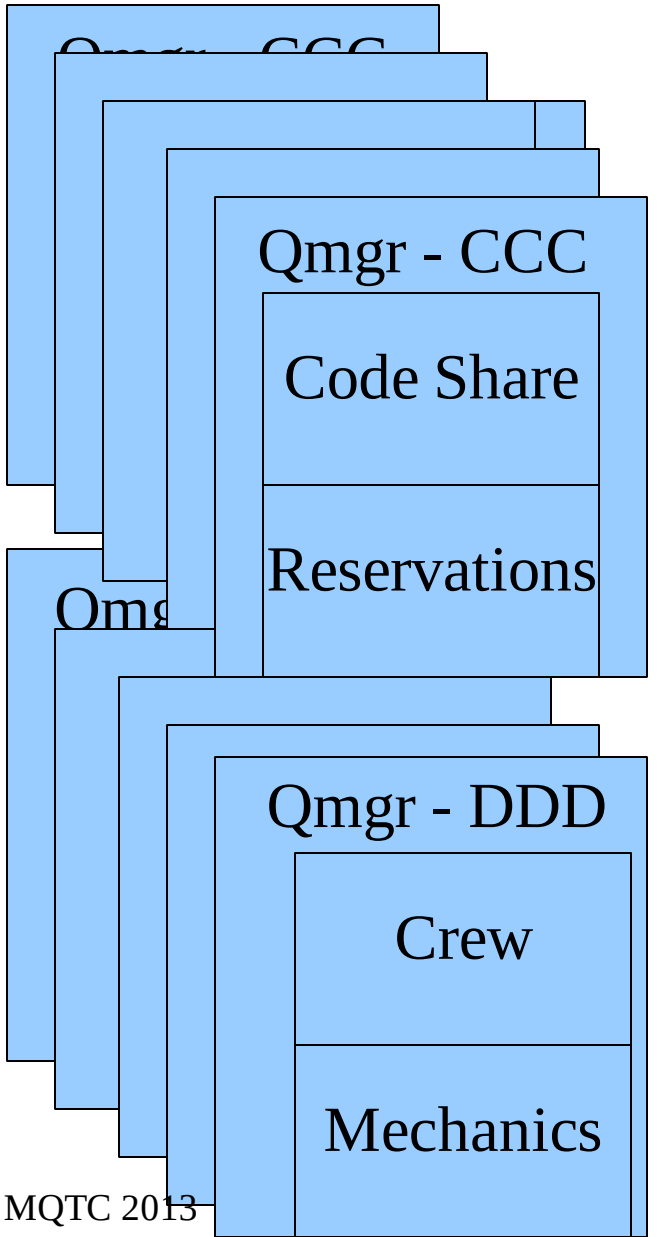
Example Application Environment



Let's Multiply!

Typically Overlooked:

Which endpoints more closely match the profile of E-travel wallet customers or geography of wallet customers ?



Example Application Environment

Let's isolate the application that concerns us ...

"fare quotes"

The MQ Admins estimate threshold warnings at queue depths are 100 and EnQ rates are 5 > DeQ rates.

Business unit estimates traffic for new 'wallet' promo based upon 12 million fare quotes in the past year.

Simulated application in staging environment based upon these numbers.

Qmgr - CCC

E-Travel Wallet

Qmgr - DDD

Airline Portal

Qmgr -EWR

Fares

Qmgr - HPN

Fares

Qmgr - LGA

Fares

Qmgr - JFK

Fares

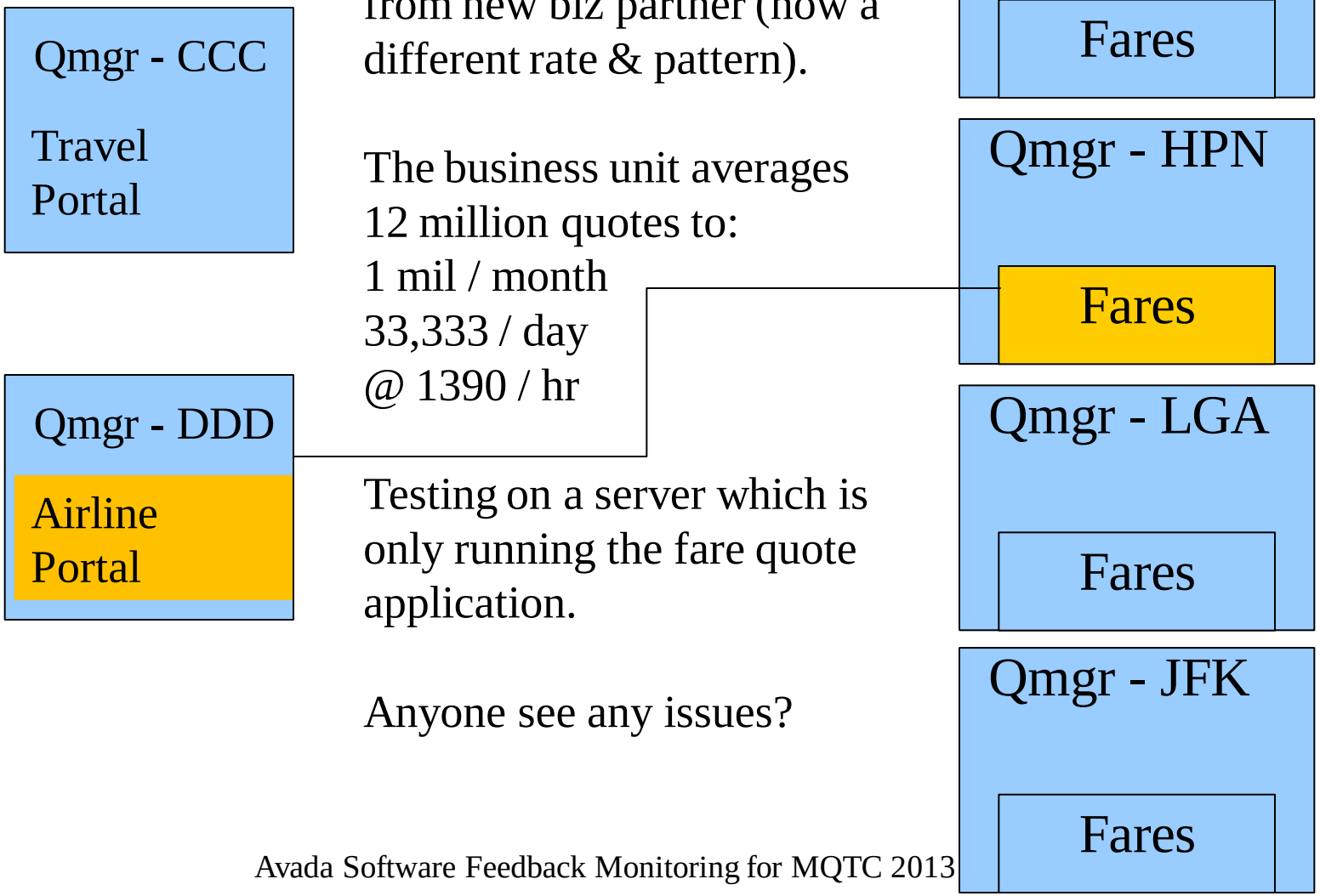
Example Application Environment

MQ Admins don't know these quotes are coming in from new biz partner (now a different rate & pattern).

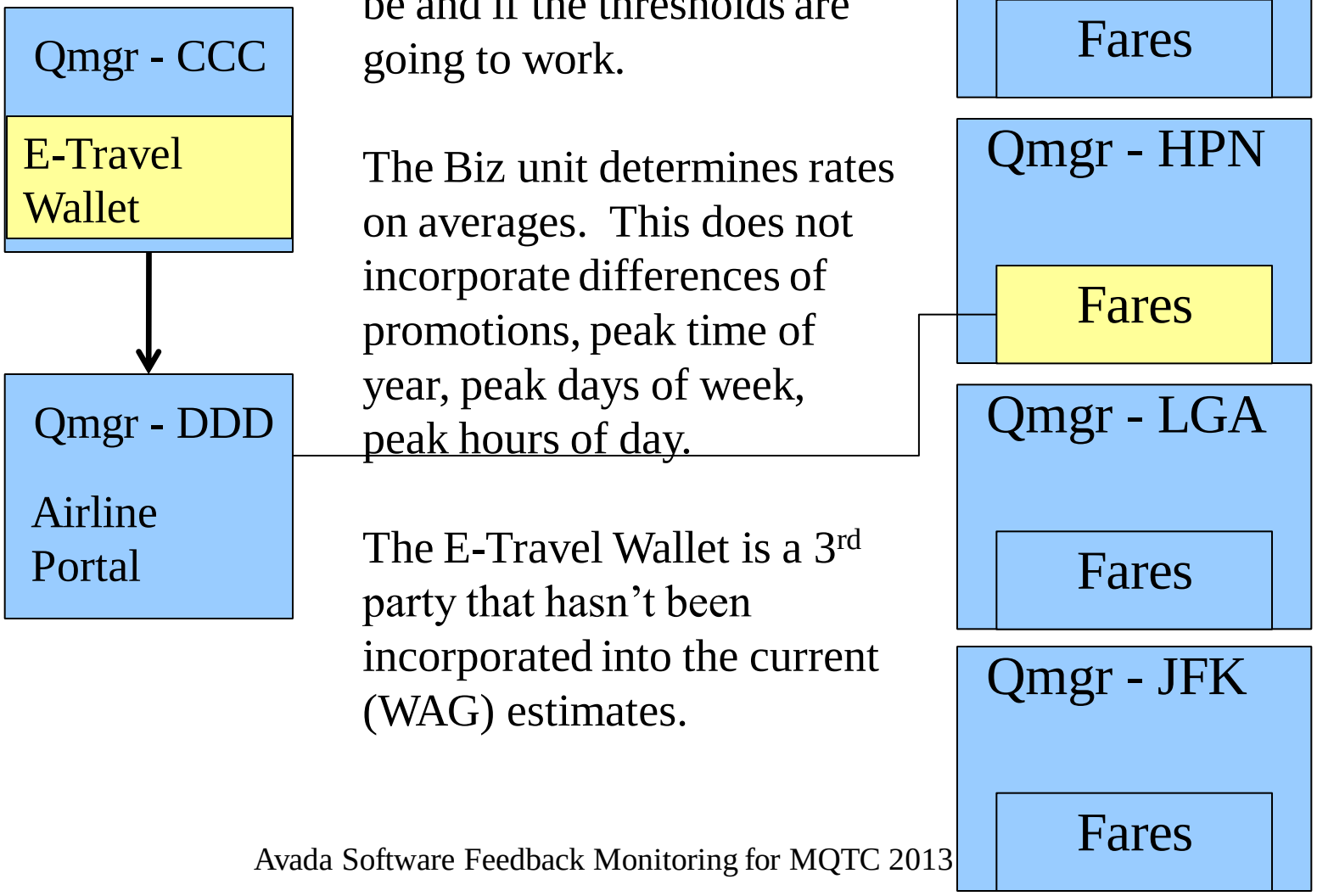
The business unit averages 12 million quotes to:
1 mil / month
33,333 / day
@ 1390 / hr

Testing on a server which is only running the fare quote application.

Anyone see any issues?



Example Application Environment

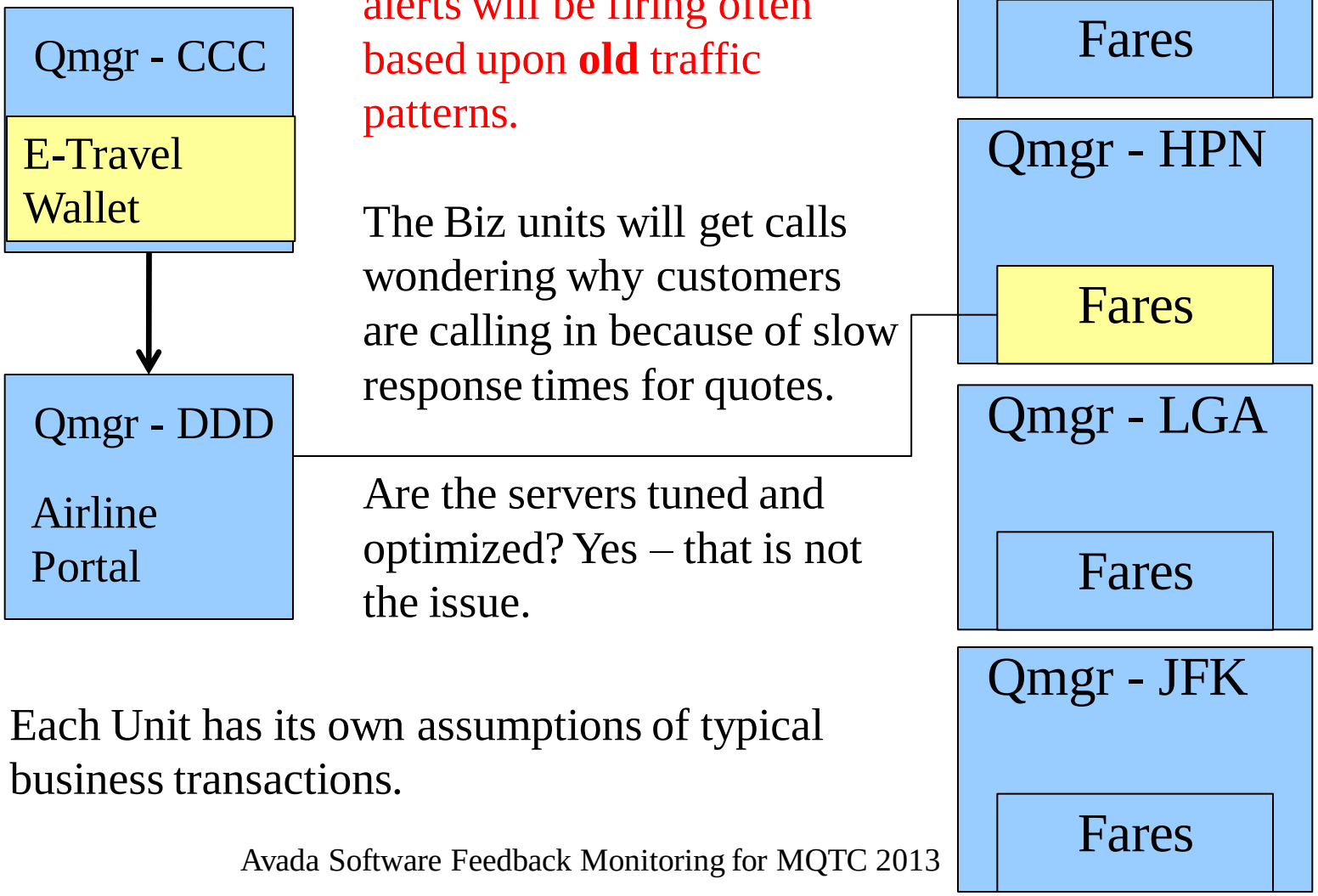


The MQ Admins have NO idea what the traffic rate will be and if the thresholds are going to work.

The Biz unit determines rates on averages. This does not incorporate differences of promotions, peak time of year, peak days of week, peak hours of day.

The E-Travel Wallet is a 3rd party that hasn't been incorporated into the current (WAG) estimates.

Example Application Environment



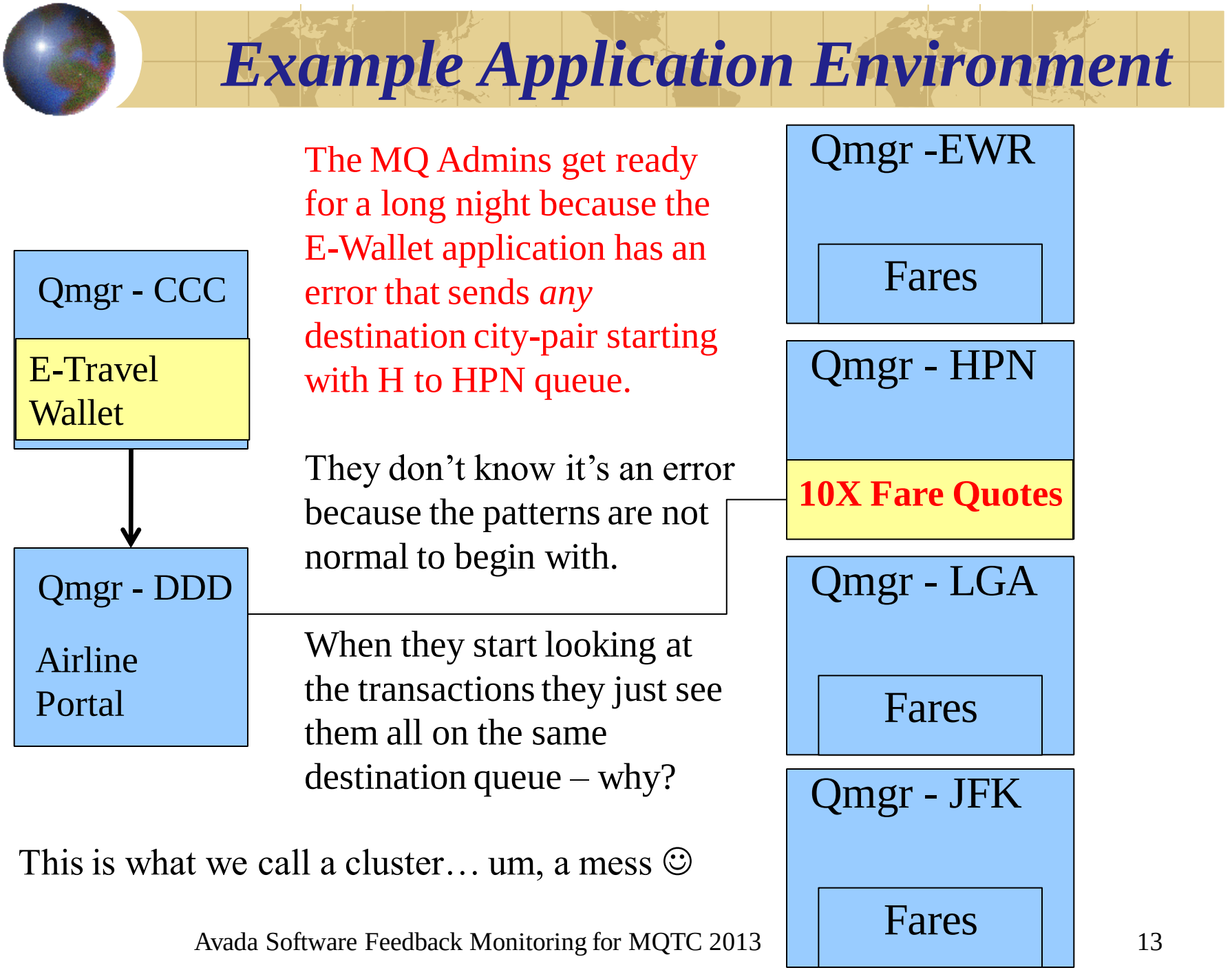
The MQ Admins get ready for a long night because alerts will be firing often based upon **old** traffic patterns.

The Biz units will get calls wondering why customers are calling in because of slow response times for quotes.

Are the servers tuned and optimized? Yes – that is not the issue.

Each Unit has its own assumptions of typical business transactions.

Example Application Environment



This is what we call a cluster… um, a mess ☺

An Interactive Approach

How do these biz units collaborate to adjust monitoring thresholds for the new E-Travel Wallet application and associated promo?

Feedback Monitoring:

"A practical approach to working with Business Units"

Monitoring Scenarios are usually based upon:

- **Immediate Thresholds** – historical assumptions of current SLAs (MQ Admins generally set these)
- **Statistical Measurements** – capacity teams for each biz unit : MQ Admins, fares app. team, portal app. team)
  - From historical trends
  - From test harnesses
  - From transaction measuring software

Current Methods

- **Patterns are usually based on historical volumes:**
  - Assuming the *same* rate of business
    - ... when your biz wants *better*?
  - Cost of analysis typically low
    - = cost of error typically high!
- **Patterns are usually based upon previous offerings**
  - But expectations are now based upon new market initiatives? – different volume of users, the dates of the offering?
  - If so, the previous patterns may not apply.

Feedback Monitoring:

Deriving Patterns and Behavior

- Sometimes there are no previous base statistics so behavior patterns are not yet determined

- Even more need for joint effort analysis
  - Pattern detection
  - Application behavior
  - Peaks & Valleys
  - Volumes
  - Timeframes

Why Agile Business is so important

- Corporations are in difficult economic conditions and/or competitive markets
- There is a need for creativity and *agility* to create new offerings in order to *compete*
- New offerings are *business* decisions
  - Outside of IT
  - Regardless of IT
  - Are time dependent to get market share
  - Are based completely on promised return on investment

Market Driven Examples:

- Travel – special fare offerings, new mobile apps
- Banking – E-business and mobile initiatives
- Insurance – competitive rate, automobile integration
- Retail – special pricing + limited time offerings
- Utilities – special offerings for energy choices
- Manufacturing – limited resource availability

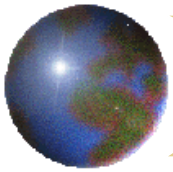
Problem Area for Threshold Planning

Issues:

- Historical basis not yet formed
- Threshold basis *not yet* determined
- Market conditions not certain
- Success of acceptance of new business app

Goal:

- Early pattern and *behavioural* recognition



Best Practices for Setting Thresholds

Modelling New Business Applications

- **Use *real* data! "hello world" is not a transaction**
- **Model transactions in test/QA/etc using the same payloads as would be in Production**
- **Model them while running other transactions volumes on the *same* Qmgr, other queues, as would be in Production**
- ***Monitor* the transactions in test/QA/etc the same as you would in Production (better to know it now than later)**

Best Practices for Setting Thresholds

Modelling new business applications

- **Review findings *with* business units**
- **Use comparatives – is this normal, not normal?**
  - **Fare app Trend Chart trends**
  - **Vs E-Travel Wallet Chart trends**
- **Offer opinions on ability to run & support**
  - **What are *alternatives* if traffic predictions are wrong?**
- **Analyze real peaks in application trends**
  - **promos, seasonal, weekly, daily (peak levels for each)**
  - **your thresholds are built for the peaks – not the average!**
- **Create 'stepped' warning levels for MQ Admins & support**
  - **at threshold A, at threshold B, etc?**

Best Practices for Setting Thresholds

Modelling New Business Applications

- ***Review*** **expectations and tactics with business units.**
- ***Gather*** **statistics over short intervals during initial rollout.**
- ***Determine*** **and set threshold values to watch – initial hours.**
- ***Gather*** **statistics over medium intervals during initial rollout.**
- ***Determine*** **and set threshold values for comfortable limits for that day (8am-11am, 11am-2pm, 2pm-5pm, 5pm-8pm).**
- ***Gather*** **statistics over longer intervals during initial rollout.**
- ***Determine*** **and set thresholds values based upon daily totals, then based upon each daily pattern for that week.**
- **Monitor thresholds for THIS APP should now be in place.**

- **Use same feedback loop in each application phase by monitoring and gathering stats for each unique application !!!**

Infrared360 Value Proposition

➢ **Infrared360 Provides:**

- **Collaborative visibility to business applications environments**
- **Short, mid, long term threshold alerting**
- **Real-time middleware object detail & summary statistics**
- **Comparative statistical charting of real-time middleware stats**
- **Real-time administrative interface to problem area by business unit for quick problem resolution**
- **Self-healing capabilities ties alerts to corrective actions**
- **Automated replay and volume testing of real transactions**
- **Instant visibility to application environment by business unit**

➢ **for Enterprise Middleware Environments**

Infrared360 Value Proposition

- **Let's see some examples**

  - **Set up transactions via IR-Tester**
  - **Set up monitoring to indicate when to act**
  - **Set up reactions to monitoring that force statistical collection at time of alert**
  - **Chart transaction trends**
  - **Detail transaction trends**
  - **Summarize transaction trends**

- **for Enterprise Middleware Environments**

Feedback Monitoring Best Practices

Thank you!

AVADA SOFTWARE
Infrared 360