DYNAMIC DEBUGGING

Pain-free Troubleshooting of Production PL/SQL

AGENDA

- Fluff (10 min)
- Meat (20 min)
- Q&A and Collaboration (15 min)

PRODUCTION PROBLEMS

- User calls or submits ticket
  - Getting error, nothing, or taking too long
- Proactive monitoring
  - Determines errors occurring
  - Determines performance is not typical
- No monitoring or history
  - aka “Taking your lumps”
  - User, customer, manager, CEO calls…
  - Backend process doesn’t complete, doesn’t run, spitting errors
- Find and Fix. Then rebuild trust.

DEBUGGING METHODS

- DBMS_OUTPUT
- Log to file
- Log to table
- GUI tool or DBMS_DEBUG API
- Others?

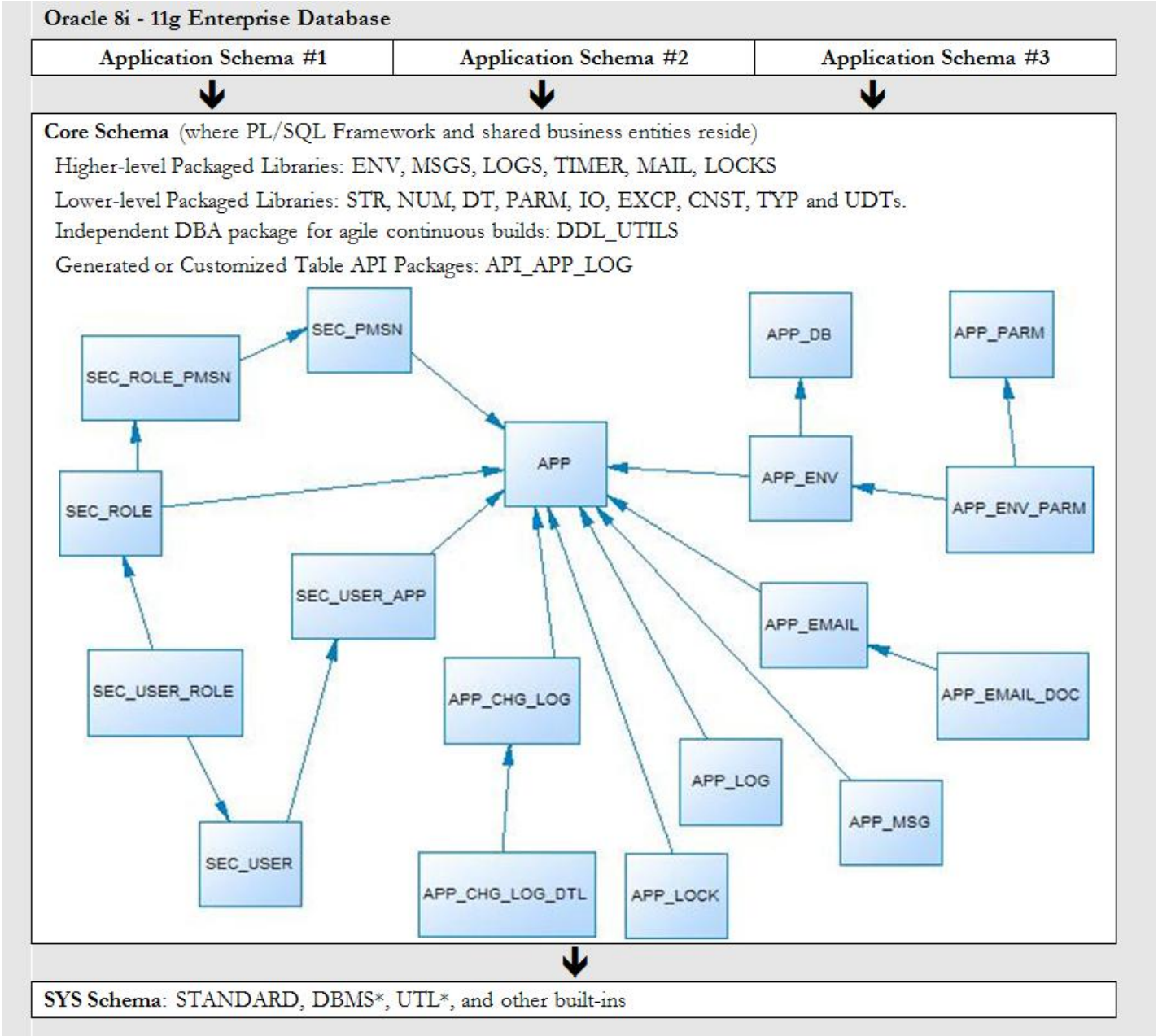
DEBUG HEAVEN

- Dynamic: Can be turned on and off
  - Debug instrumentation can remain in Prod code
  - Turn on for a PL/SQL unit
  - Turn on for an existing session
  - Turn on for a named process
  - Turn on for an identifiable end user
    - Other? (IP address, Domain, Client program)
- Visible immediately. No waiting.
- Output choice: file, table, screen, other?
- Painless for developers to learn and use
- Auto-report time and origination

WHICH WAY TO HEAVEN?

- Simple debug API
  - `dbg('Calling X with '||i_parm);`
- Table-driven parameters with defaults
  - Debug toggle
  - Debug context of interest
  - Output destinations
  - Defaults overrideable
- Robust file API for file-based
- Anonymous transaction API for table-based
- Method to identify end user

PL/SQL STARTER FRAMEWORK



RELEVANT PIECES

- Debug API: LOGS
  - logs.dbg()
    - Critical private routines: check_debug_toggle(), env.caller_meta()
- Toggles: APP_ENV_PARM
  - Debug (on/off, session, unit, user)
  - Debug Toggle Check Interval (in minutes)
  - Default Log Targets (Screen=N,Table=Y,File=N)
- File API: IO
- Log Table API: APP_LOG_API
- End-to-End User Identification
  - Modified Java connection classes
  - Application Context and DBMS_SESSION.set_identifier and DBMS_APPLICATION_INFO “tagging” (ENV pkg)

IT'S GO TIME!

- CIO just called. After last night's release, she is not getting her daily email about the critical problem/solution repository.

- Questions?
- Ideas?

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Framework: sourceforge.net/projects/plsqlframestart/