

CA ADS™ Application Performance: Global Considerations

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abstract

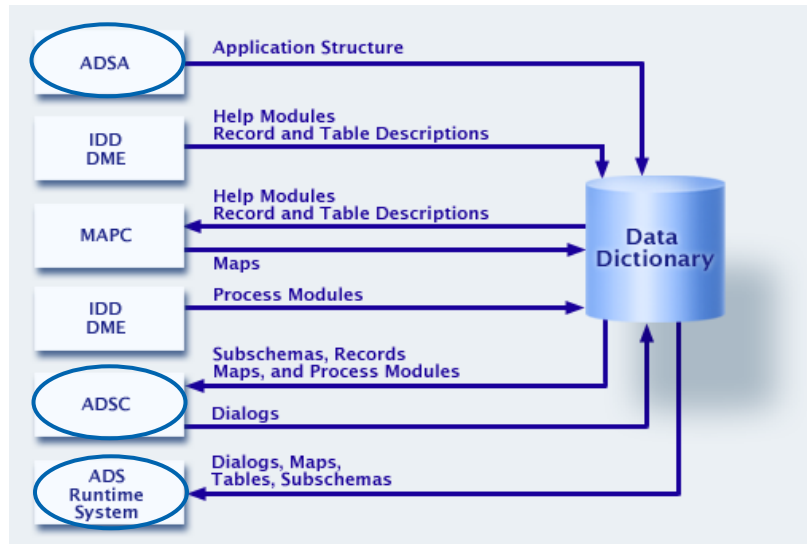
- The CA ADS™ family of tools is a powerful and fast way to create runtime applications. Efficiency and performance are important considerations in a production environment. This webcast will discuss global factors that effect the response time and throughput of runtime performance.

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CA ADS family of tools



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global considerations

- No “run fast” switch
- Everything impacts performance
- Everything has trade-offs
- Evaluate choices to determine true impact
- Tuning is best when done during initial application design
 - Much CA ADS programming is now modification
 - Tune existing application if performance is bad or when maintenance is done
- Coordinate CA ADS updates with DBA to avoid possible problems
 - Re-examine storage allocation, add a new index to an existing record, etc.
- Use extra caution when modifying existing applications

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size matters

- Applies to
 - Applications (more detail later)
 - Dialogs (more detail later)
 - Maps
 - Subschemas
- Smaller is faster
- Too small is inefficient also
- As with many things, a balance is best

how to reduce size

- Limit scope of work
- Reduce redundancy
- Eliminate unnecessary pieces
 - Unneeded elements in global records
 - Changing global records requires recompile of all components using them
 - Global subschemas
 - Overly large components
 - Dialog code that can be handled automatically (more later)
- No large-scale entities, multiple small ones

subschema size

- Affects storage for:
 - IB50, VB50 (Subschema control blocks)
 - \$\$CURCY (Currency block)
 - FDB (SSAN Table)
 - RAT (Ready Area table) – each occurrence
- Best: semi-tailored application-specific

Global Subschemas

- Easier to Maintain
- Demand More Space
- Ready All Areas

Tailored Subschemas

- More Maintenance
- Reduced Storage needs
- Ready Fewer Areas

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ready area table (RAT)

- One for each dialog process in application thread
- Less storage needed for tailored subschemas
- 'Ready All' flag: Ready All, Noready
- Mode: Explicit, ss default, shared retrieval default
- Flag shows area ready mode (last command for area)

Retrieval	X'25'
Update	X'24'
Protected Retrieval	X'27'
Exclusive Retrieval	X'28'
Protected Update	X'26'
Exclusive Update	X'29'

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SCRATCH records

- Alternative to repeated database I/O
- Data transfer among dialogs (global records)
 - Uses only necessary space
 - Avoids over-allocation when data varies
 - Efficient
- For temporary storage, avoid using for long-term
- Storage pool use, no nucleus calls (I/O)
- Can be put into XA storage
- Requires coding effort

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dialog load module (FDB) components

- A record description element (RDE)
 - Dialog work & internal records
 - Map records
 - Database records
 - Internal Records
 - Literal pool
 - OTB symbol table
 - OWA ssctrl
 - VDB date, time
 - SQL
 - IRA compute
 - VRE error-status of record

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dialog load module (FDB) components (cont.)

- An autostatus record (ASR)
- A map
- A Subschema Area Name table (SSAN)
 - Contains every area in the subschema
- A literal pool 'literals', numbers, dope vectors, etc.
- A premap process element (PME)
- One or more Response Elements (RSEs)
 - One for each response process
 - Contains header, name, Pfkey, etc. code

dialog load module (FDB) components (cont.)

- Ready Area Table (RAT) for each process that accesses the data base
- Executable code or Command Element (CME) for each command
- A diagnostic table (if indicated)
- A symbol table (if indicated)

application run-time variable storage

- OTB
 - Session parameters
 - One per application
- OTBX
 - ADSA-defined application variables
 - One per application
- OWA
 - Only when running
 - One per application

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application run-time variable storage (cont.)

- Dialog Variable Storage (VDB)
 - One per active dialog
- Subschema Variable Storage (VB50)
 - Only when running
- RBBs
 - One for each work, map, or subschema record
 - One set per application
- Currency Save Control Block
 - One per active DB dialog
 - Only when not running

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session summary

- Database tuning is imperative
- Smaller = faster: map, subschema, dialog, application
- Tailor when possible: subschema, work records
- Share when possible: reduce redundancies
- No strict coding rules, maximize trade-offs
- Consider efficiency during design and coding, also when modifying
 - The CA IDMS™/DC environment
 - The business in which an application runs

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Questions

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thank you

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