Leveraging ProTop from Dev to Prod

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About White Star Software

- The Oldest and Most Respected Independent Progress OpenEdge Consulting Firm

- 5 of the top OpenEdge DBAs in the world: Adam Backman, Tom Bascom, Dan Foreman, Paul Koufalis and Nectarios Daloglou

- Our Performance, Monitoring and Alerting Tool, ProTop. An incredibly powerful single-pane-of-glass view of your entire OpenEdge ecosystems

- Real World Training From Real World DBAs

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Before we start...

- Think about some recurring issues that you may face:

  - Code works great in dev/test but slow in production
  - Same code is fast at customer A but slow at customer B
  - Users complain about mysterious slowdowns or freezes but issue disappears before you can investigate
  - RF gun users lose connection and leave open screen, blocking other users and causing BI growth

- What else?

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What is ProTop

- ProTop is a free, open source, real-time monitoring tool
  - Download it at protop.wss.com

- Monitor hundreds of database, UBroker and related metrics

- Mix and match screens to show information that is relevant to you

- Optionally connect ProTop to one of our web portals
  - Local portals all over the world
  - See 24h of database trend data (more with paid version)

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What is ProTop good for?

- Checking Your Configuration

- Identifying Performance Problem Areas

- Correlating Scattered Metrics

- Drilling Down to the Details

- Finding Trends

- Development and Testing
  - Comparing Theory to Reality
  - Preventing Performance Problems at the Source

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Download and Install ProTop

- https://wss.com/protop

- In Europe: dashboard.protop-europe.com

Progress OpenEdge Version	UNIX/Linux Install	Windows Install
12.0	Download	Download
11.7	Download	Download
11.6	Download	Download
11.5	Download	Download
11.4	Download	Download
11.3	Download	Download
11.2	Download	Download
10.2B	Download	Download
10.2B08 32-Bit	Download	Download
Source Code*	Download	Download

Pick the right ProTop for you and follow Windows or *nix instructions :

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DEMO #1: ProTop Free Real-Time Monitor

```
                       ┌── ProTop Help - Command Keys ──┐

                         Command Keys are Case-Sensitive

d = Performance Dashboard          c = Configuration Viewer       O = OS Info (if avail)

t = Table Activity                 w = Latches and Resources      Q = SQL activity
i = Index Activity                 k = Checkpoints                D = Disk Free Space
l = LOB Activity                   b = Blocked Sessions           / = Sequences
u = User IO Activity               r = OE Replication Agents      N = Network Traffic
x = Active Transactions            f = File IO                    W = Who is Connected?
L = Login Brokers                  s = Server Activity            m = Multi-Tenant Info
a = Storage Areas                  A = "Classic" App Servers      e = Application Specific
^b = Buffer Pools                  B = BigB Guesstimator          ^a = After-Imaging Info

U = User Information Viewer        # = Set Usr#                    P = Set Process Id
                                   * = Client Statement Cache     _ = Clear Client Statement Cache

T = Show Table and Index Range Info   6 = Set Table Name          8 = Monitor Users of a Table
! = Generate DBAnalys Output          7 = Set Index Name          9 = Monitor Users of an Index
3 = Client/Server Parameter Report

2 = Pro2 Activity                  j = PASOE Health Scanner

^p = programmer mode               ^u = SQL update stats script   ^t = show session temp-tables
^d = dump & load scripts           ^r = dbanalys review & reports Y = show session user*stat
                                                                  y = run profiler on this session

; = Set Refresh Interval           ^ = Modify Sort Columns        & = Show Global Properties

   % = Switch between Raw and Rate Sampling    $ = Switch between Auto and On-Demand Sampling
   p = Pause to allow manual Screen Capture    @ = Send Screen Capture as an e-mail
        ( = Set Top X Row Limit                ) = Modify _Lock Scan Limit

            <space> = Refresh Sample (or un-pause)
                    h, ? = Help
                     q = Quit
```

- Help screen "h"

- Mix-and-match interesting data collector screens

- Options are case-sensitive

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DEMO #2: Who is reading so much?

```
                                        Users of "Vacation"  tblNum: 12  areaNum: 7  records: 0
  Usr# User Name              Turns      Create     Read v     Update     Delete  Line# Program Name

>   10 paul                    0.00           0     231152          0          0     16 churn.p
    11 paul                    0.00           0     229642          0          0     16 churn.p
```

DEMO #3: Blocked clients

- ProTop shows you who/what/where/why

DEMO #4: Other cool features

- (T)able and Index Range Info
- Ctrl-P: Programmer Mode
- Ctrl-D: Dump & Load scripts (free vs paid version)
- Ctrl-U: Update Statistics scripts
- Ctrl-R: Generate DB Analysis
- Y: Session user*stats
- y: Profiler

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DEMO #5: web portal
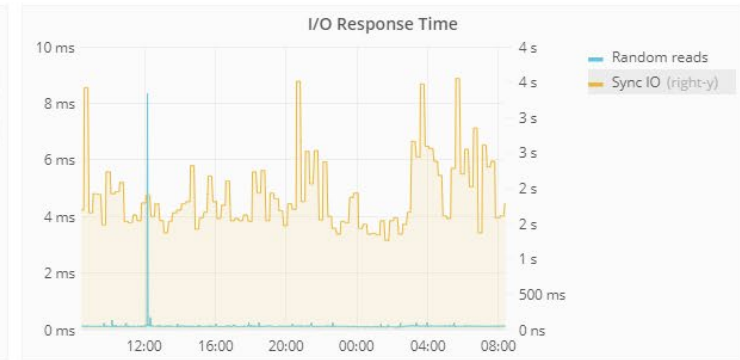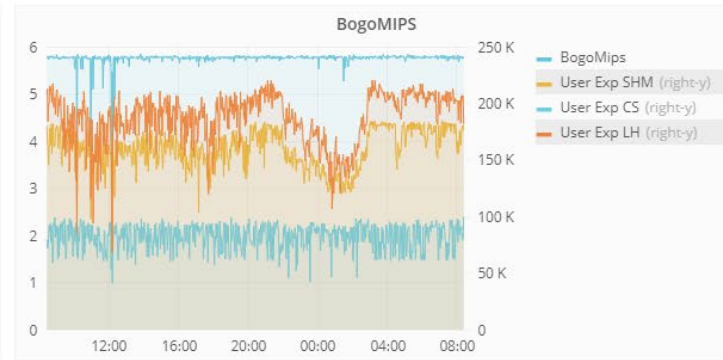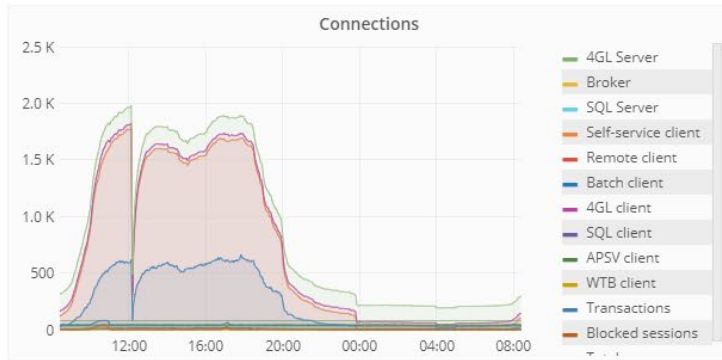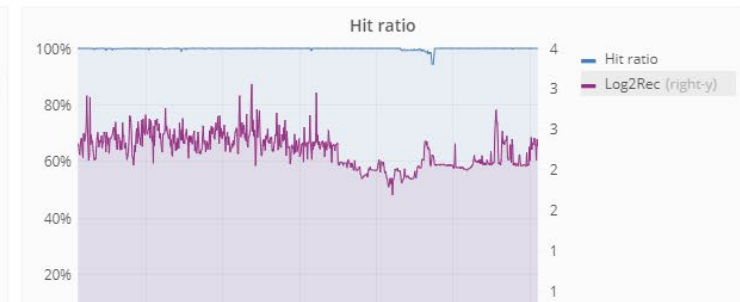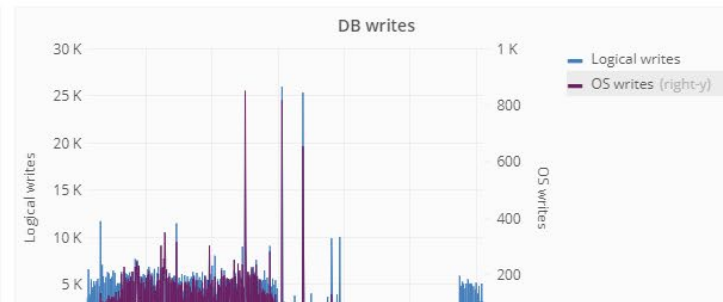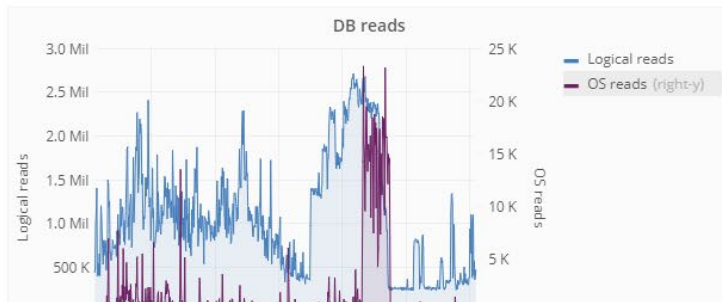
System resource analysis

- Sometimes the problem is not Progress. How do you prove?

- ProTop measures OpenEdge related system activity through six metrics:
    - bogoMIPS: single-threaded CPU speed
    - User Experience Shared Memory: 4GL query speed for shared memory client
    - User Experience Localhost: 4GL query speed for localhost tcp/ip connection
    - User Experience Client/Server: 4GL query speed for remote tcp/ip connection
    - Random Reads: Random disk reads to database file system
    - Synchronous IO: unbuffered synchronous IO speed (i.e. AI/BI writes)

System resource analysis: what do you want to see

- HIGH bogoMIPS:
  - 6 or higher = fast Intel Xeon CPU
  - 4 to 6 = older Xeon CPU
  - Less than 4 = old and slow
- HIGH User Experience SHM: The faster you can read records from –B, the better
- Relatively high User Exp LH and CS: LH should be close to SHM. CS varies based on a number of factors
- Random Reads: low single-digit ms
- SyncIO: 10 sec = "normal" SAN.
  - 10 sec => 16 MB BI cluster format takes 1.67 sec (freeze time when BI has to grow by one cluster)

DEMO #6: System metrics

- Flat vs variable bogoMIPS

- Relative User Exp SHM vs LH vs CS
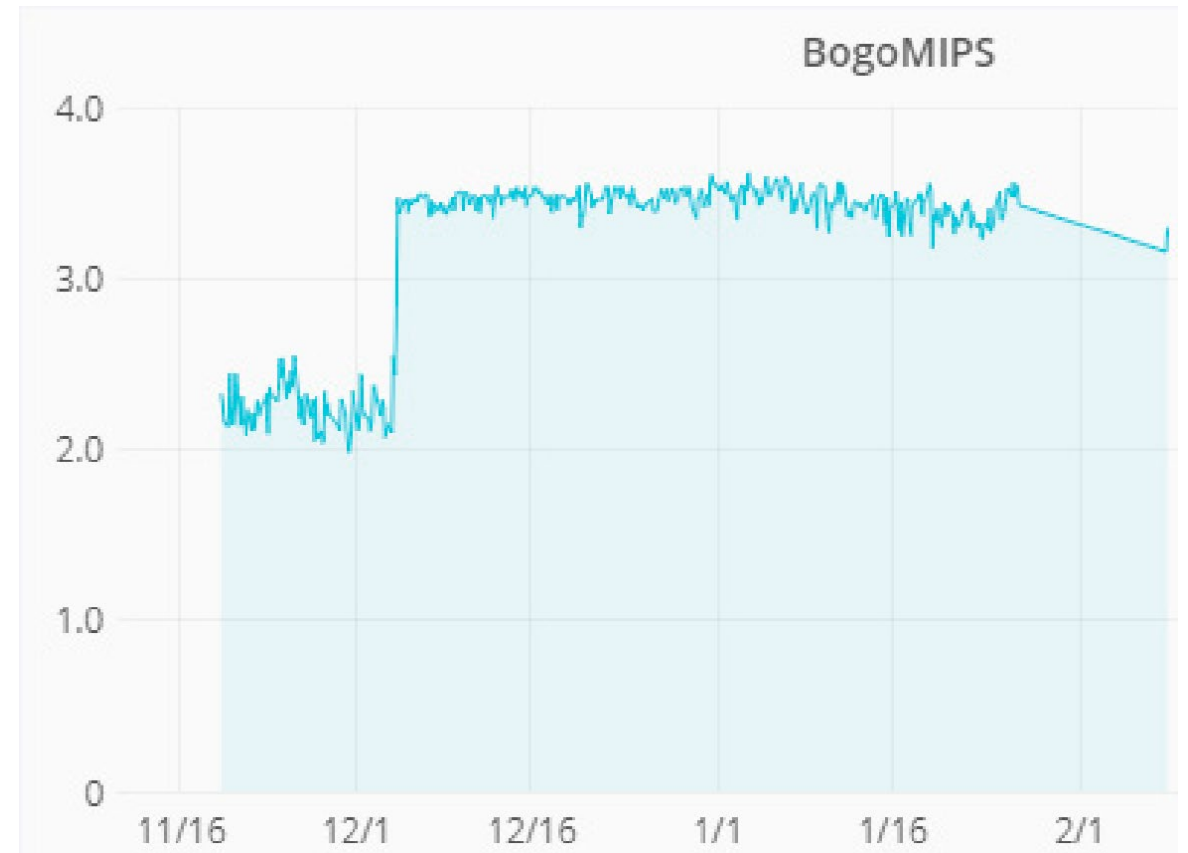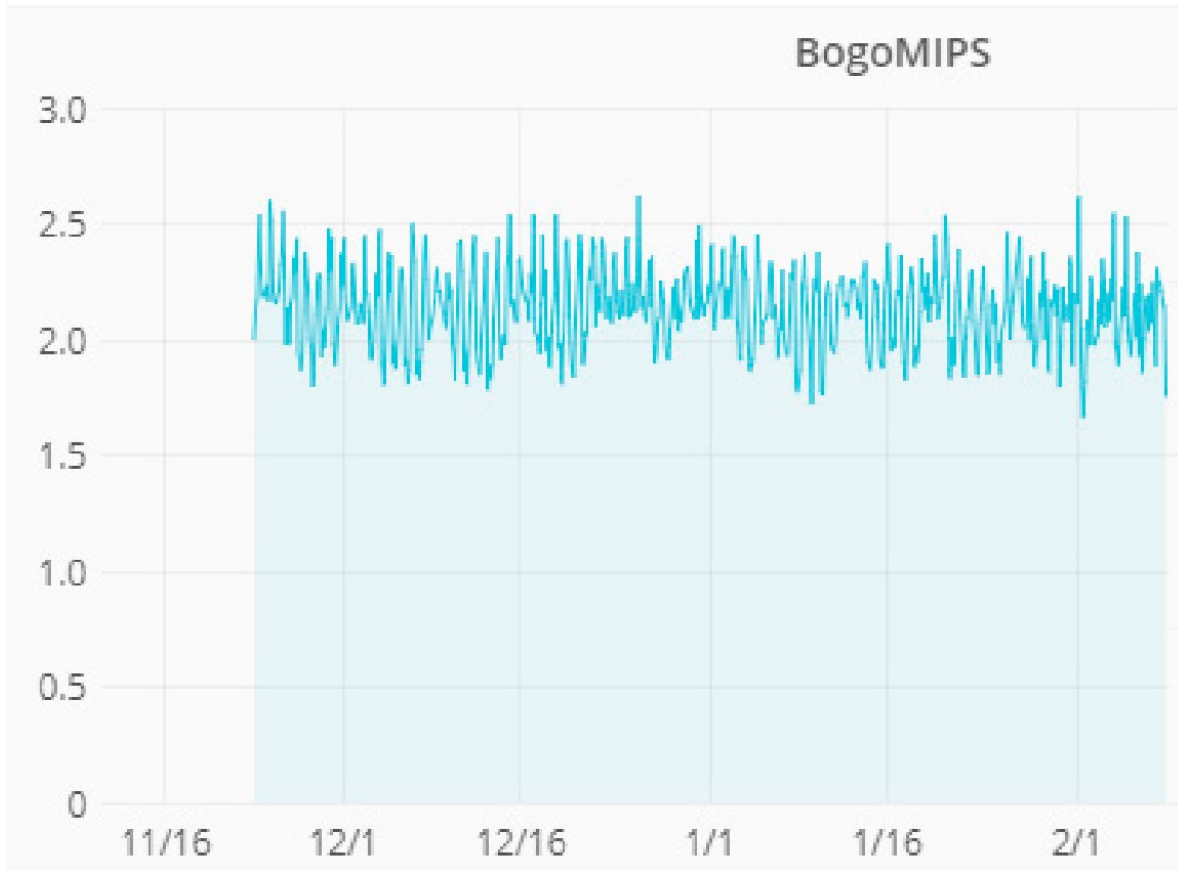
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System metrics: problematic results

System metrics: problematic results

System metrics: problematic results

Infrastructure change

Users start complaining

Users livid!

Vmotion confirms infra problem

Infra issue corrected

2019-05-20 09:00:00
Sync IO: 7.171 min

8 min

3 min

2 min

0 ns

4/23   5/1   5/8   5/16   5/24   6/1

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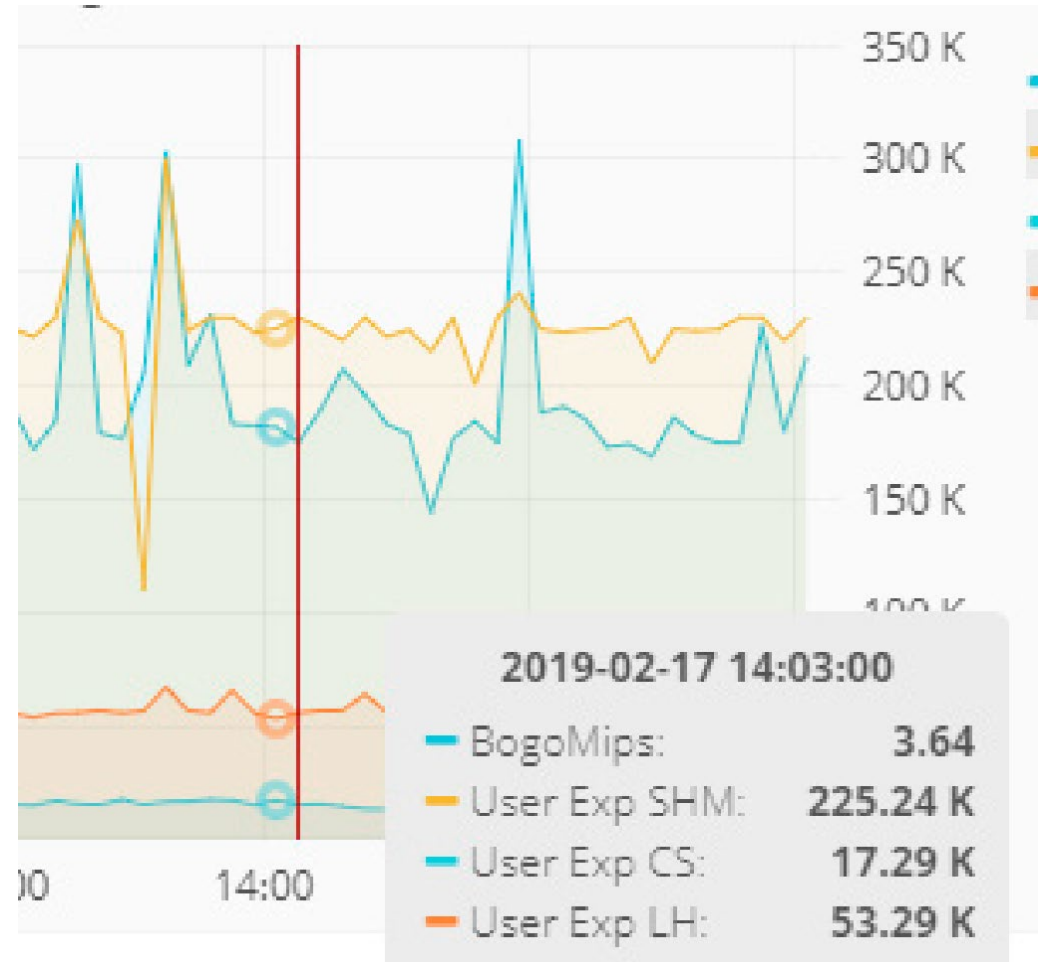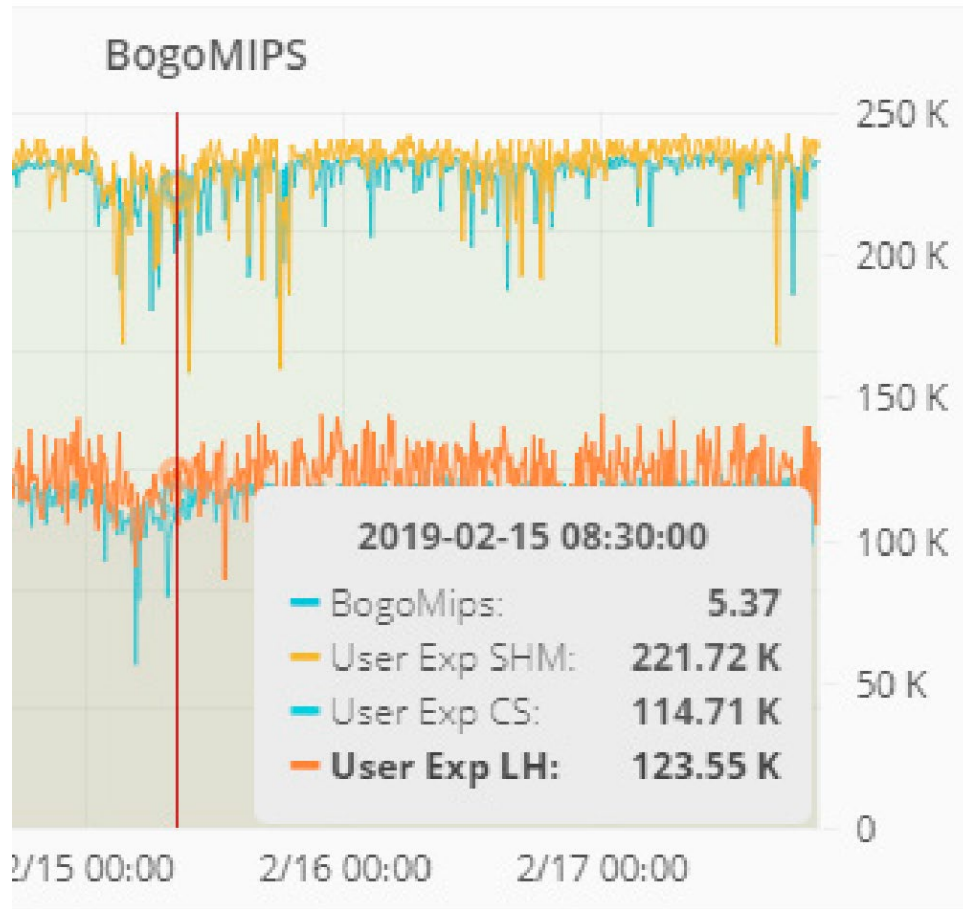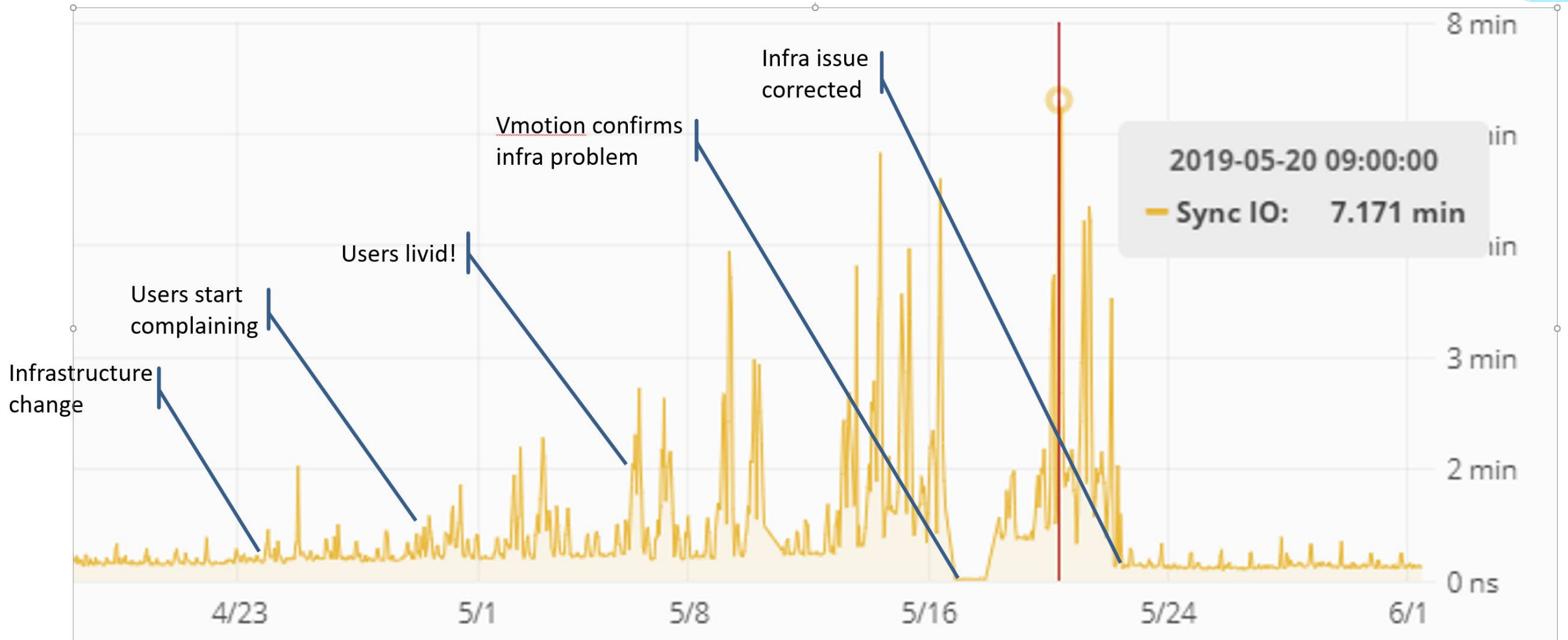
Paid features

- Previous slides and demos are part of ProTop Free

- Future slides show paid features
  - Commercial presentation Tuesday 13:00

- ProTop Enterprise Monitoring and Alerting is sold as an annual subscription service

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Alerts

- All data available in ProTop can be used to generate alerts
  - Hundreds of metrics

- Unlimited threshold definitions

- False alarm avoidance features

- Multiple alerting levels
  - Reduce spam/noise: configure where alerts go

- Alert enhancers provide extra information to simplify and accelerate troubleshooting

- Custom script response

DEMO #7: Single pane of glass view

DEMO #8: Advanced Dashboards

- Years of history

- Table and Index Statistics

- AppServer

- Latches

- Configuration

- Server (Linux and Windows)

- PASOE

- Raw data (dedicated portal only)

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DEMO #9: Health Check

- Automated periodic health checks

- Categorized and sorted by priority

CASE STUDY: Variable performance across customers

- Partner with 100+ sites

- Small subset of customers complaining of unacceptable performance

- Code is the same. Why such massive differences across installations?

- Partner suspects infrastructure but customers Did not believe them
 - No proof !!

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Case study continued...

- With ProTop, was able to identify specific infrastructure issues

- Prove beyond any doubt that problem was NOT OpenEdge-related

- < demo report >

CASE STUDY: Bad code
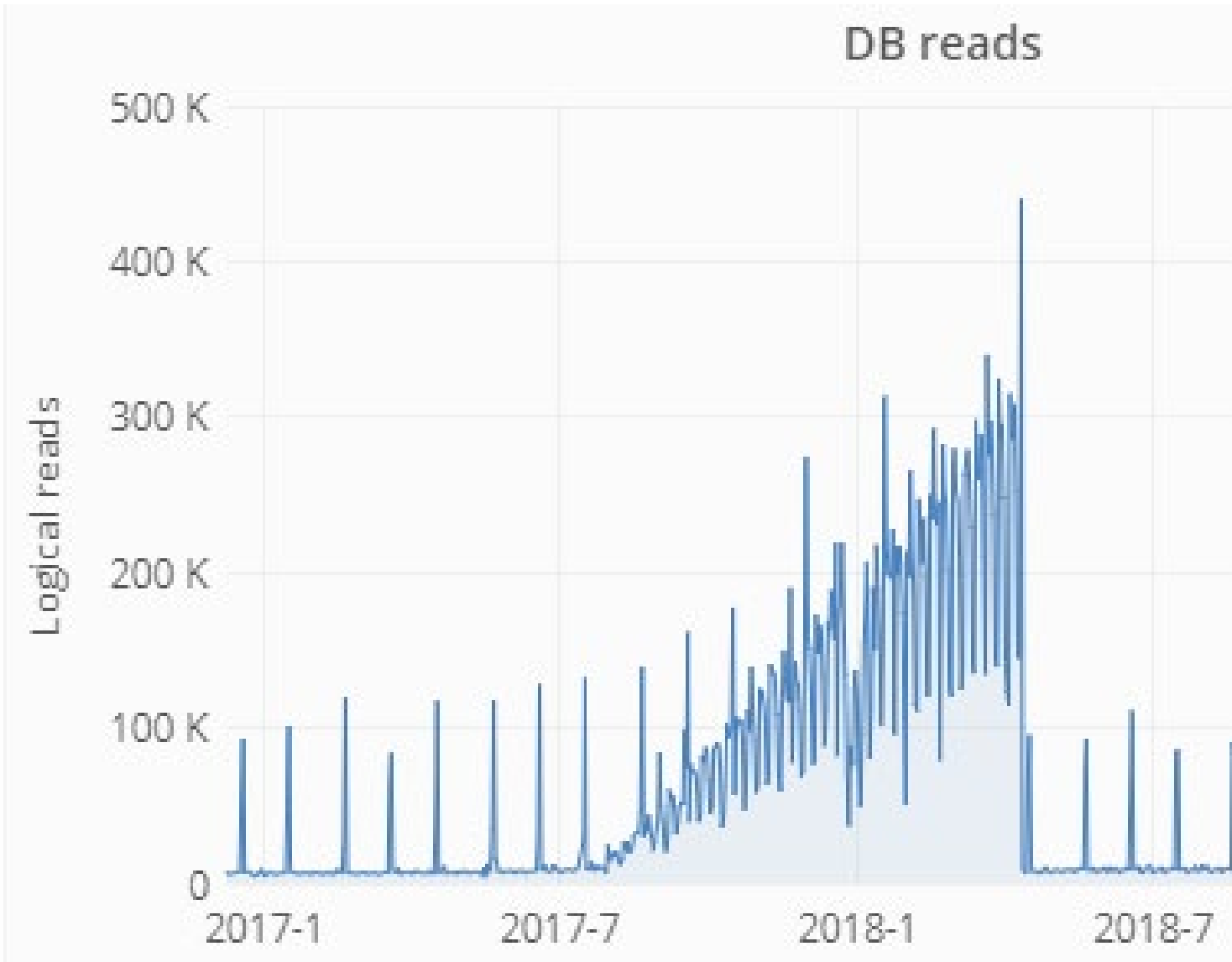
- Nightly batch job finishing later and later
- Business noticed when job not finished by start-of-day
- ProTop clearly shows the issue:
  - bad code scanning entire table
  - Table grew and grew
  - 300K reads/sec !!

Yes but who responds to these alerts?

- Your choice: we can respond or your team can respond, or both

- Many of our customers have excellent technical people in place
  - We are there to mentor and support them as needed

- For guaranteed support, WSS offers the DBAppraise 24/7 support add-on to ProTop subscriptions

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DBAppraise 24/7 support add-on

- 24/7 support with 1 hour SLA

- We take the calls or we backstop your team

- Support from some of the top DBAs in the world

- No hourly cost for production support means no budget surprises
  - 1h or 10h, production support is included in subscription

- Alternatively, WSS also provides occasional 24/7 support to cover vacations

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Detect and correct
issues before they affect
your critical business processes

Questions?