Your Current Monitoring is Not Enough

The Business Benefits of Proactive Monitoring with ProTop

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Why are you here?

- Excellent performance and availability are good for business

- You can do more and you can do it faster

- Users are happy

- Support staff are happier

Why Are You Here?

Common pain points:

- USERS are de facto monitoring service
- *Stuff* happens...then stops. No idea what/why
- Zero visibility into root cause of issues
- Zero visibility into effect of changes

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Why ProTop? Why WSS?

- We are in the business of problem avoidance

- You are also in the business of problem avoidance

- **Our goals are aligned**

- We are the first and most avid user of ProTop
  - It is part of our day-to-day professional life

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Why ProTop? Why WSS?

We offer

- Free tools for real-time analysis

- Historical data for intuitive anomaly detection

- Performance, monitoring and alerting tools

- Our expertise, if you need it, when you need it

- 24/7 guaranteed support

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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

info@wss.com | wss.com

What Our Partners Say

"At MIP we have a challenging environment for our DBAs, who administer well over 1,000 databases across our internal development teams, and our 60+ customers. As a tool, ProTop is unparalleled. We are able to spot and resolve issues incredibly quickly, and we have often been able to avert problems before they materialise. As a company, White Star provides us with a level of responsiveness, and depth of expertise, that we simply don't find with other partners. Implementing ProTop is probably the best decision we made this year!"

Patrick O'Reilly

—

Chief Technology Officer
MIP Holdings (Pty) Ltd

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Let's Get Started

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What is ProTop ?

- Flexible, highly configurable alerting system

- Single-pane-of-glass web portal

- Years of trend history at your fingertips

- Real-time monitoring console

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Flexible Alerting

- Hundreds of available metrics

- Unlimited threshold definitions

- Alert fatigue avoidance

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

- Automated script response

- Alert Enrichers
  - Time-consuming information gathering executed automatically

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Flexible Alerting

- Simple text-file configuration
  - quick and easy to maintain and deploy

- Hierarchical alerting structure
  - Global default configuration
  - Or specify by environment, server, database, etc.

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Flexible Alerting

```
Metric Threshold  SS    Notify   Message             Action
====== ========= ==     ======== ================ ====================
otrx    num  > 7200 ""     "hourly" "Old Tx &1 &2 &3" zOldTRXDetails,alarm
ztime   num  >  300 ""     "hourly" "Blocked &2 &3 s" zBlockedDetails,alert
HR      num  < 98    "3:3" "hourly" "Hit% &2 &3 (&1)" alert


asMode char = "Not Running"  "2:2" "hourly" "&1 &2 &3" script,alarm
```

Flexible Alerting

- Built-in Monitoring Agents for OpenEdge components
- Built-in log file monitor
- Easily extendable to monitor almost anything

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Alert Enhancers

```
ztime Session blocked > 300 seconds
[2019/07/18 09:20:58.257-04:00]
[server:                    ]
[dbname: /d00/apprise]
[cfgname:          ]

usrnum=493 tId=0 userName=Jbingham userPID=3796 userFlags=R4 * blkDura=00:05:01 blkWait=REC  XQH blkResrc=13032363
blkNote=oe-header 502:ops-ajmartin:3668 -1 taskhist.p blkBy=502 xtime=33356


  Usr Name             PID      Flags Duration Wait      Resrc Id
  ===== =============== ======== ===== ======== ======== ============
   493 Jbingham        3796     R4 *  00:05:01 REC   XQH 13032363    oe-header 502:ops-ajmartin:3668 41 taskhist.p
```
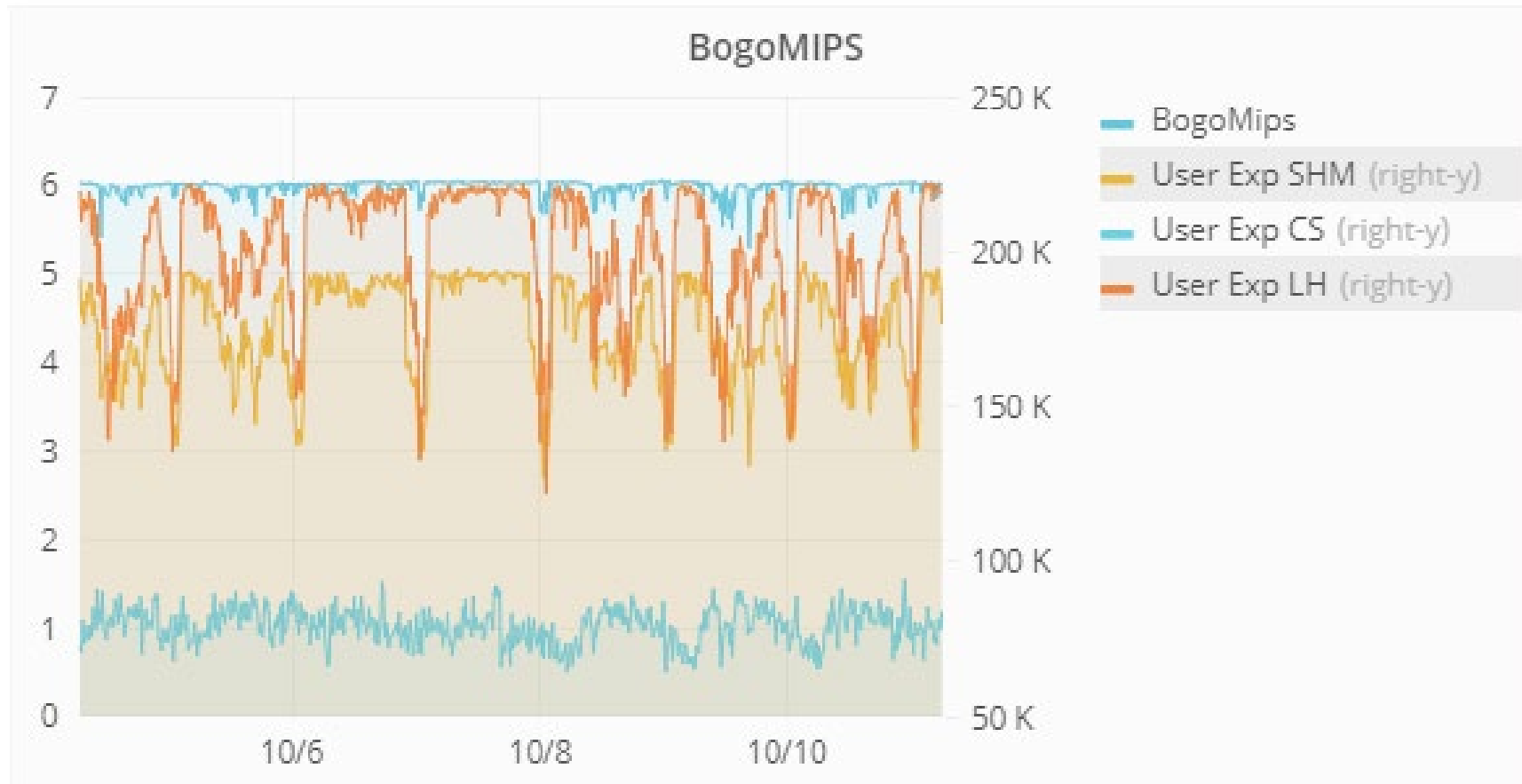
Record lock

Table name

Offending user

Program and line #

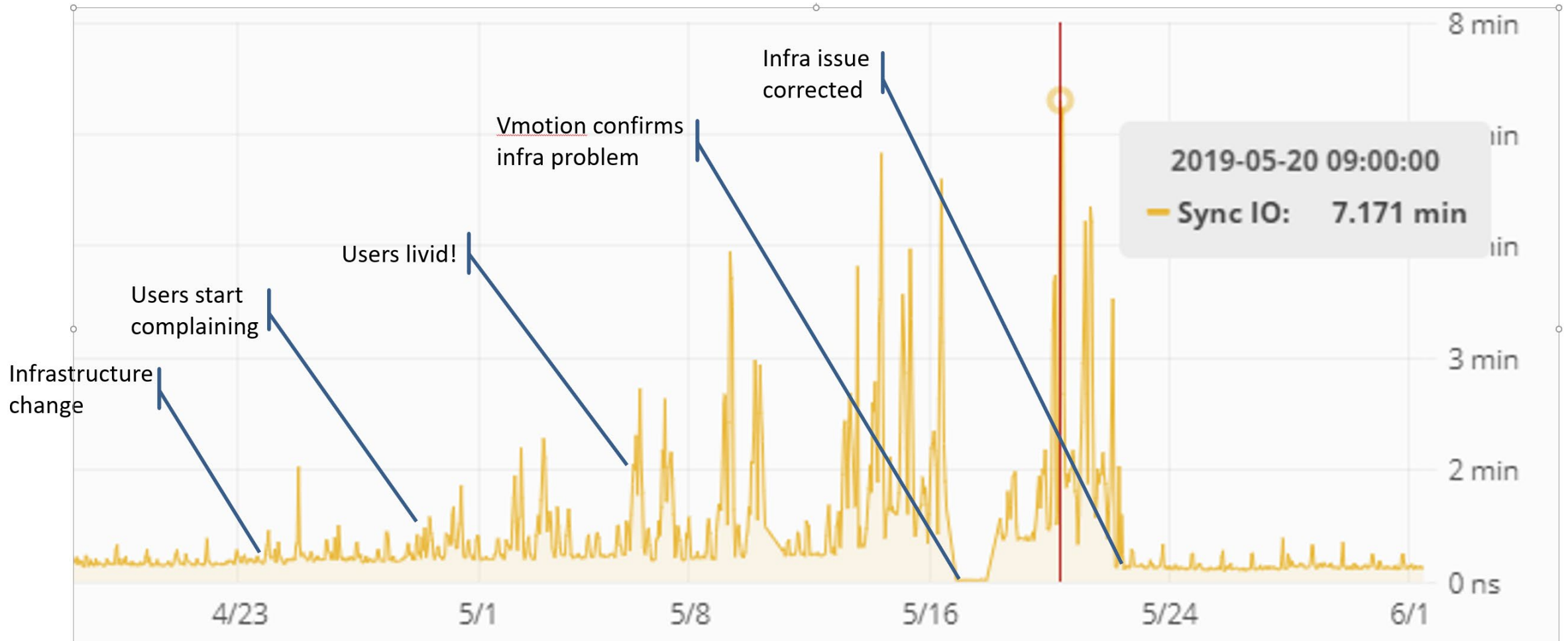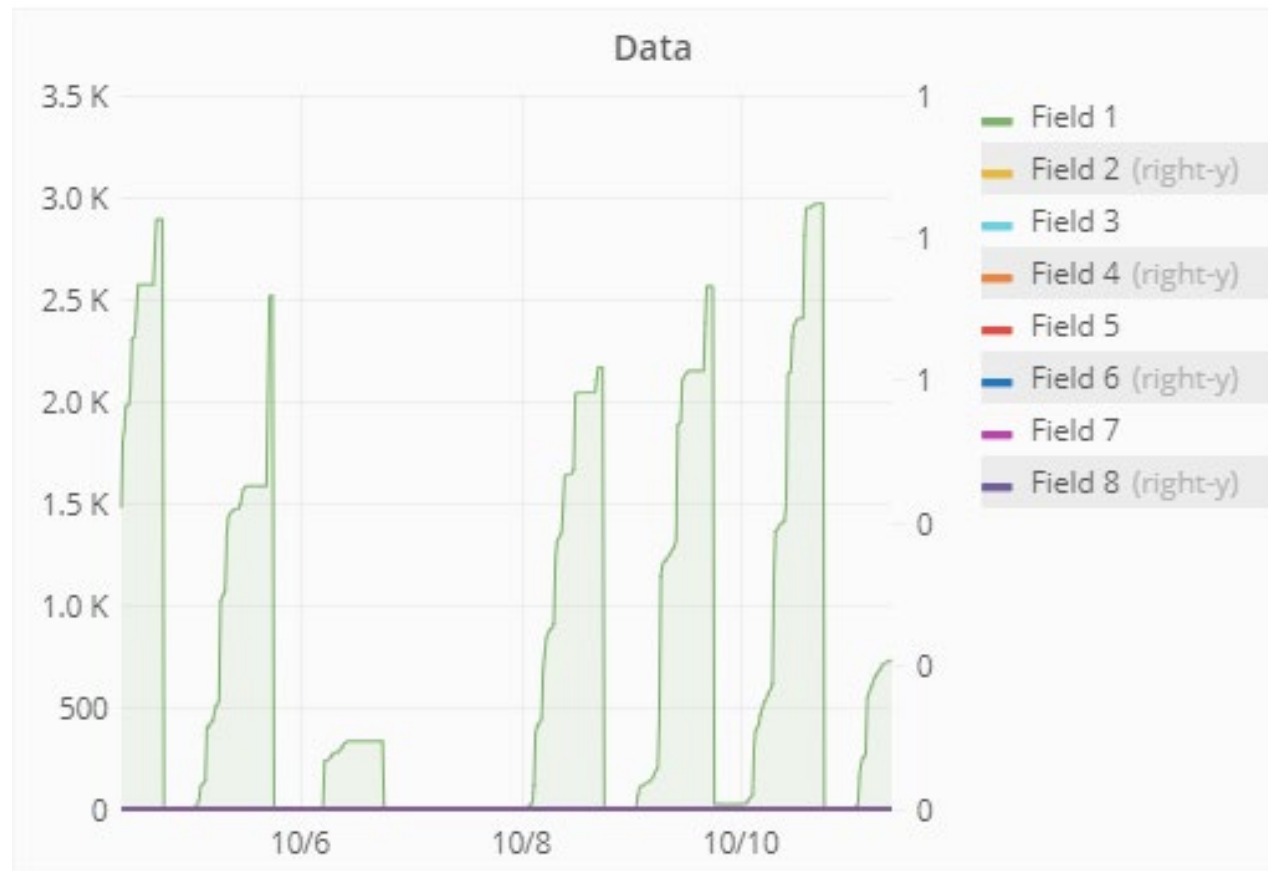White Star
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Continuous Evolution

Continuous Evolution

Continuous Evolution

- Custom Application Metrics

Single Pane of Glass

Web Portal

Alerts Feed

14:16:41	z1061.toto
14:16:35	z1061.toto
14:16:29	z1061.toto
14:16:24	z1061.toto
14:16:19	z1061.toto
13:42:24	z1061.toto
13:42:19	z1061.toto

tblTurn Table turns/sec 259.57 > 10

```
otrx Old Transaction 7307 > 7200
[2018/10/11 04:46:26.690-05:00]
[server: MyServer]
[dbname: /db/prod/sands.db_3510]
[cfgname: xyzcorp]


  Usr Name              PID       Device             Flags Duration      Wait
  ===== ============== ======== ================== ===== ============ ===================
   35 xia              24393     /dev/pts/38        S4 *     02:01:48
   27 spack1           12776     /dev/pts/21        S4 *     01:04:35
   40 produi           10435     /dev/pts/25        S4 *     00:00:00
   22 produi           11752     /dev/pts/20        S4 *     00:00:00
   36 produi           13484     /dev/pts/29        S4 *     00:00:00
   14 produi           16813     /dev/pts/12        S4 *     00:00:00
```

```
ztime Session blocked > 30 second
[2018/04/24 13:42:19.790-04:00]
[server: protopdev]
[dbname: /home/paul/toto/toto]
[cfgname: toto]

usrnum=8 tId=0 userName=paul user
By=7 xtime=49218

  Usr Name             PID       Fl
  ===== ============== ======== ==
     8 paul            20201     S4
```

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```
tblRd Table reads/sec 67453 > 50000
[2019/10/08 15:54:32.625+02:00]
[server: SV015153]
[dbname: e:\probase\elocum]
[cfgname: prod_elocum]

tblNum=7 tblAreaNum=9 tblPool=B1 tblName=doccpt dbaRM= dbaRecs=11681705 dbaFragPct=0.00% dbaScatter=1 tblTurn=0.01 dbaAvgRow=211 tblCr=0

usr#    User Name        PID      Flags   LogRds     RecLks      LkHWM  Line# Procedure
======  ===============  =======  =====   =========  =========   ======  ==========================================================
   341  sysprogress      3936     R4B     140449          0
   347  sysprogress      3632     R4B      20849          0
   342  sysprogress      2976     R4B       4352          0
   346  sysprogress      2952     R4B       3150          0
   339  sysprogress      808      R4B        426          0
   317  sysprogress      6940     R4         421        195
    86  86               4976     PT3        145          0
   366  sysprogress      1944     RAB        122          1
   362  sysprogress      3808     RAB         54          2
   361  sysprogress      2964     RAB         52          0
   369  sysprogress      3416     RAB         43          0


tblNum Table Name                                  Records   Create      Read  Update  Delete   Churn
====== ========================================== ========= ======== ========= ======== ======== ========
     7 doccpt                                      11681705        0     67453       2        0     0.01
    28 soldes                                       5266614        0      4517       5        0     0.00 ***
    23 solan1                                       5049626        0      1212       3        0     0.00
    24 solana                                       6065249        0       732       3        0     0.00
    27 solbud                                       9565302        0       209       1        0     0.00
     6 cenjou                                       1278574        0       198       5        0     0.00
    21 relban                                       3258112        0        31       0        0     0.00
     8 doclib                                        221783        0         1       0        0     0.00 ***
     9 docmod                                         14733        0         1       0        0     0.00 ***
    19 rapban                                       3881225        0         0       0        0     0.00
     1 abomul                                         30345        0         0       0        0     0.00


idxNum Index Name                                   Blocks   Create      Read   Split  Delete   BlkDel
====== ========================================== ========= ======== ========= ======== ======== ========
    25 doccpt.Libelle                                47440        2     65752       0        1        0
    94 soldes.AUXILI                                 28189        0      6582       0        0        0
     1 _File._File-Name                                  0        0      5097       0        0        0
    23 doccpt.exercice-journal                       31376        0      1741       0        0        0
    72 solana.GL-SOCIETE                             48334        0       725       0        0        0
    65 solan1.GL-SOCIETE                             36141        0       696       0        0        0
    64 solan1.PRIMAIRE                               33476        0       504       0        0        0
    93 soldes.PRIMAIRE                               25326        0       364       0        0        0
    92 solbud.materiel                                3462        0       193       0        0        0
     6 _Index-Field._Index/Number                        0        0       146       0        0        0
    19 cenjou.VISU                                    3986        0        92       0        0        0
```
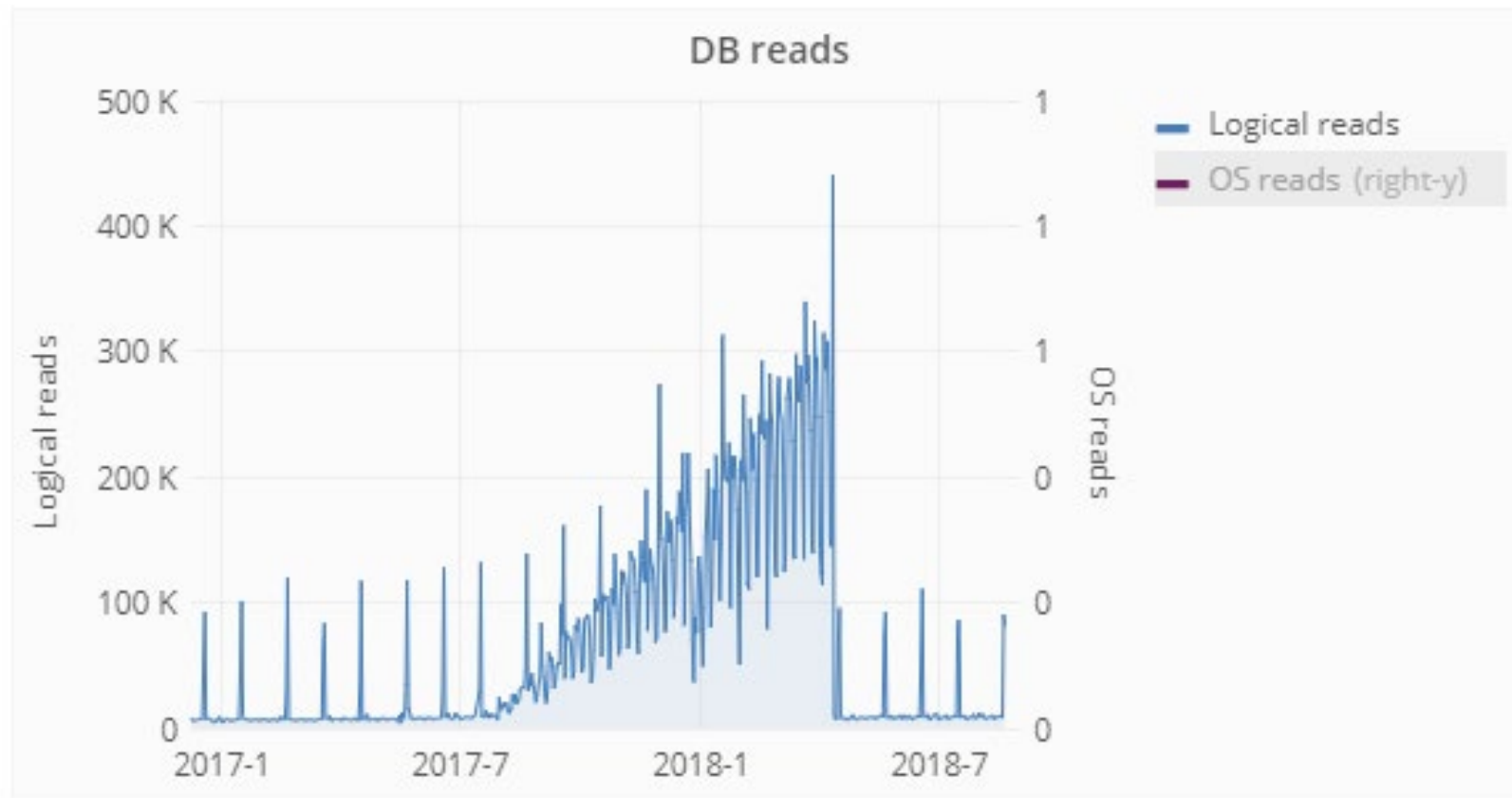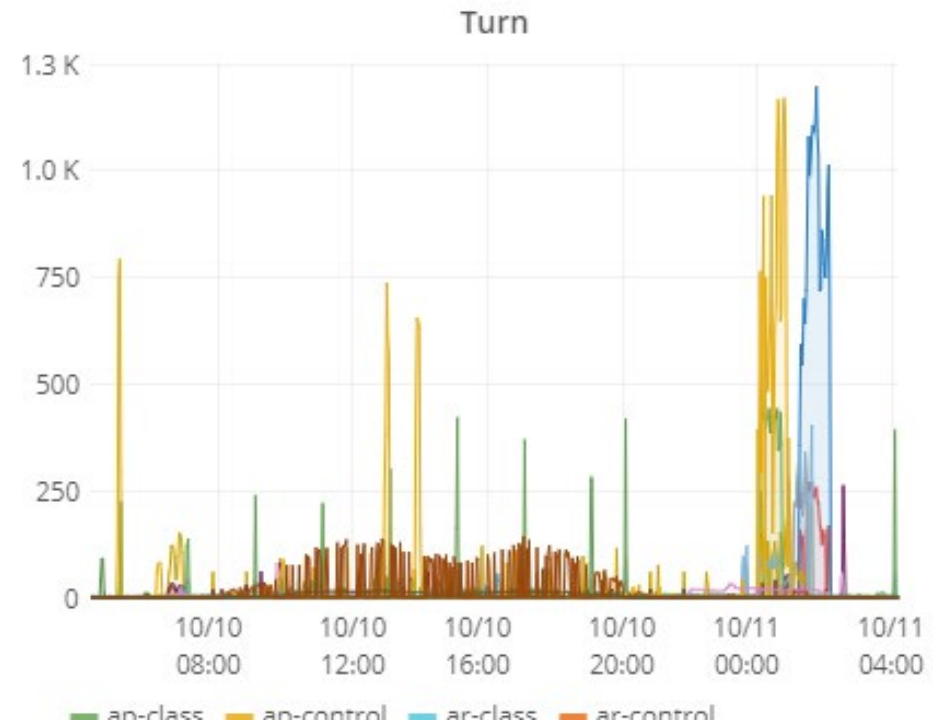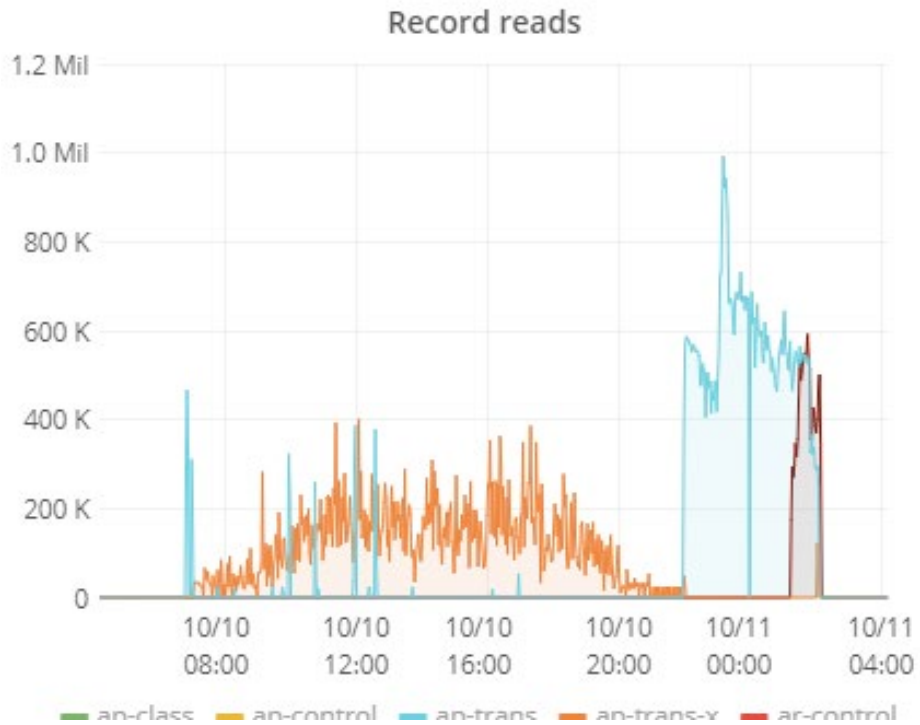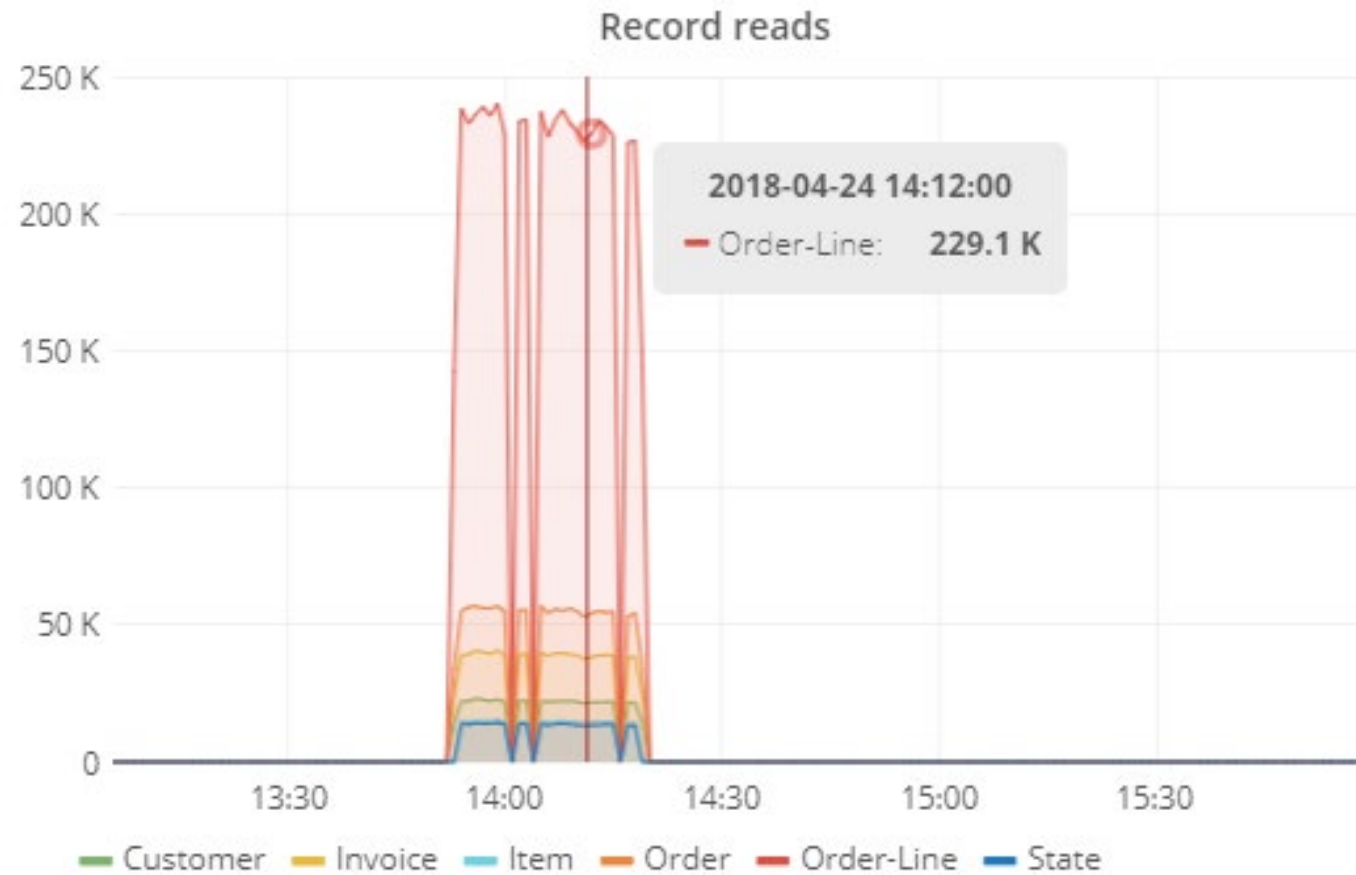
Years of History

Table and Index Statistics

Table and Index Statistics

Hundreds of Trended Metrics

Real-Time Console


```
sports120 Auto Interval Rate DS 92 6688 0.837      ProTop Version 3.141x as of October 04, 2019 10:20                    2019/10/08 12:43:06
sports120 5 11163 0                                          /data/sports120/sports120                                         protoptest

        Hit%      100.00        Commits:        96      Examined:       27     APW Writes:         35       DB UpTime:  12d 22:46    Connections:      14
   Log Reads:    1128024          Undos:         1       New RM:        17     APW Write%         100      Backup Age:  97d 14:14         -n %         67
   Log Writes:       576                                 From RM:       17    Bufs Scanned:         0                                   Brokers:        2
    OS Reads:         0     Lock Tbl HWM:      7474     RM Locked:        1    APW Scan Wrs:         0      Oldest TRX: 1 01:12:51     SQL Servers:      0
    OS Writes:        35    Curr # Locks:      2134      From Free:       0     APW Q Wrts:          0     Curr BIClstr:      16766     SQL Clients:      0
  LogRd/LogWr:    1956.88      Lock Tbl%    26.05%      Front2Bk:        0    Chkpt Q Wrts:        35      Old BIClstr:          1     4gl Servers:      0
  LogRd/RecRd:       2.08      Rec Lk/s:       4662                          Flushed Bufs:         0     Num BIClstrs:      16765     4gl RemCnx:       0
    Rec Reads:     543159    Lk Dura (ms):    302.95     Mod Bufs:       193    Chkpt Len:     00:00:05      BI MB Used:        8383     App Server:      0
    Idx Reads:     543123                                 Evicted:        0                                                            Web Speed:       0
   Rec Creates:        2                                                                      BI      AI    Curr AI Ext:   Disabled        Local:        1
   Idx Creates:       81    Sync IO (sec):    12.04                               Notes:     766       0      Curr Seq#:          0        Batch:        7
   Rec Updates:       93         (MB/sec):     7.97                         BI/AI Write%      95       0      Empty AI:           0    BIW/AIW/WDOG:   1 0 0
   Rec Deletes:        0    Random IO (ms):    0.49                         Wrts to Log:      13       0       Full AI:           0      AI Mgmt:        0
   Idx Deletes:       80        BogoMIPS:      1.57                           BI/AI Wrts:     12       0                                    APWs:         3
   Idx Blk Spl:        0    User Exp SHM:    101118                           Partial Wr:      1       0      Locked AI:          0     RPLA/RPLS:     0 0
    Rec Waits:         0                                                      Busy Waits:      0       0      pica Used:          0     Utilities:       0
   Resrc Waits:        0                                                       Empty Wts:      0       0      pica Used%       0.00         TRX:        3
   Latch Waits:       34                                                                                                            Blocked Rec:       0
   Latch Reqs:    4019340                                                                                                            Other Blkd:       0
   Latch/logRd:      3.56
```

```
                                                       Table Activity
   Tbl# Area# BX Table Name            RM Chain    #Records    Frag% Scat       Churn   AvgRow    Create    Read v    Update    Delete   OS Read

>    1    12 B1 Invoice                                 147    0.00%    2        0.00       38         0         0         0         0         0
     2     9 B1 Customer                             111127  500.00%    6        0.00    20291         0         0         0         0         0
     3     8 B1 Item                                    55    0.00%    1        0.00      141         0         0         0         0         0
     4    11 B1 OrderLine                            13970    0.00%    1        0.00       43         0         0         0         0         0
     5    12 B1 Salesrep                                 9    0.00%    1        0.00       83         0         0         0         0         0
     6    12 B1 State                                   51    0.00%    1        0.00       34         0         0         0         0         0
     7    12 B1 LocalDefault                           10    0.00%    1        0.00       72         0         0         0         0         0
```

```
                                                       Index Activity
   Idx# Area# BX Index Name                     Blocks    Util Lvls   Idx Root   Note    Create    Read v    Split    Delete    BlkDl

>    1     6 B1 _File._File-Name                     1   76.30%    1      14080    P          0         0         0         0         0
     2     6 B1 _Field._File/Field                  10   84.40%    2      14112    PU         0         0         0         0         0
     3     6 B1 _Field._Field-Name                 10   88.30%    2      14144    U          0         0         0         0         0
     4     6 B1 _Field._Field-Position              7   73.90%    2      14176    U          0         0         0         0         0
     5     6 B1 _Index._File/Index                  3   40.10%    2      14208    PU         0         0         0         0         0
     6     6 B1 _Index-Field._Index/Number          3   39.20%    2      14240    PU         0         0         0         0         0
     7     6 B1 _Index-Field._Field                 1   95.20%    1      14272    PU         0         0         0         0         0
     8    12 B1 Invoice.InvoiceNum                  1   32.70%    1        608    PU         0         0         0         0         0
```

```
                                                       User IO Activity
   Usr# Tenant Name           PID      Flags    Blk Ac v   OS Rd    OS Wr     Hit% Rec Lck   Lk HWM  Line# Program Name

>    0 -32767 paul BROK       3771     LX          0         0         0     0.00%       0        1
     1 -32767 paul SERV       27948    @X          0         0         0     0.00%       0        1
     5      0 protop paul     18610    PT3         0         0         0     0.00%       0        2    811 lib/vstlib.p
     6 -32767 paul BIW        27951    HX          0         0         0     0.00%       0        1
     7 -32767 paul APW        27954    HX          0         0         0     0.00%       0        1
     8 -32767 paul APW        29563    HX          0         0         0     0.00%       0        1
     9 -32767 paul APW        29615    HX          0         0         0     0.00%       0        1
    10      0 paul            30639    S4B         0         0         0     0.00%       0        2     16 churn.p
```

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#1: To Kill or Not to Kill

- Old Transaction + BI Growing

- Alert at 2h, alarm at 4h and page at 6h
  - DBA notified by SMS

- Trend data shows 13K read/sec in one table last 28 hours
  - Near zero write activity

- Real-time monitor confirmed inactive process running one line of code

- Safe to SIGINT

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#2: Still running !?!

- Overnight batch jobs not finishing by morning

- History shows chain taking longer and longer to run

- Customer only noticed when critical information not available to morning shift

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#2: Still running !?!

Database I/O
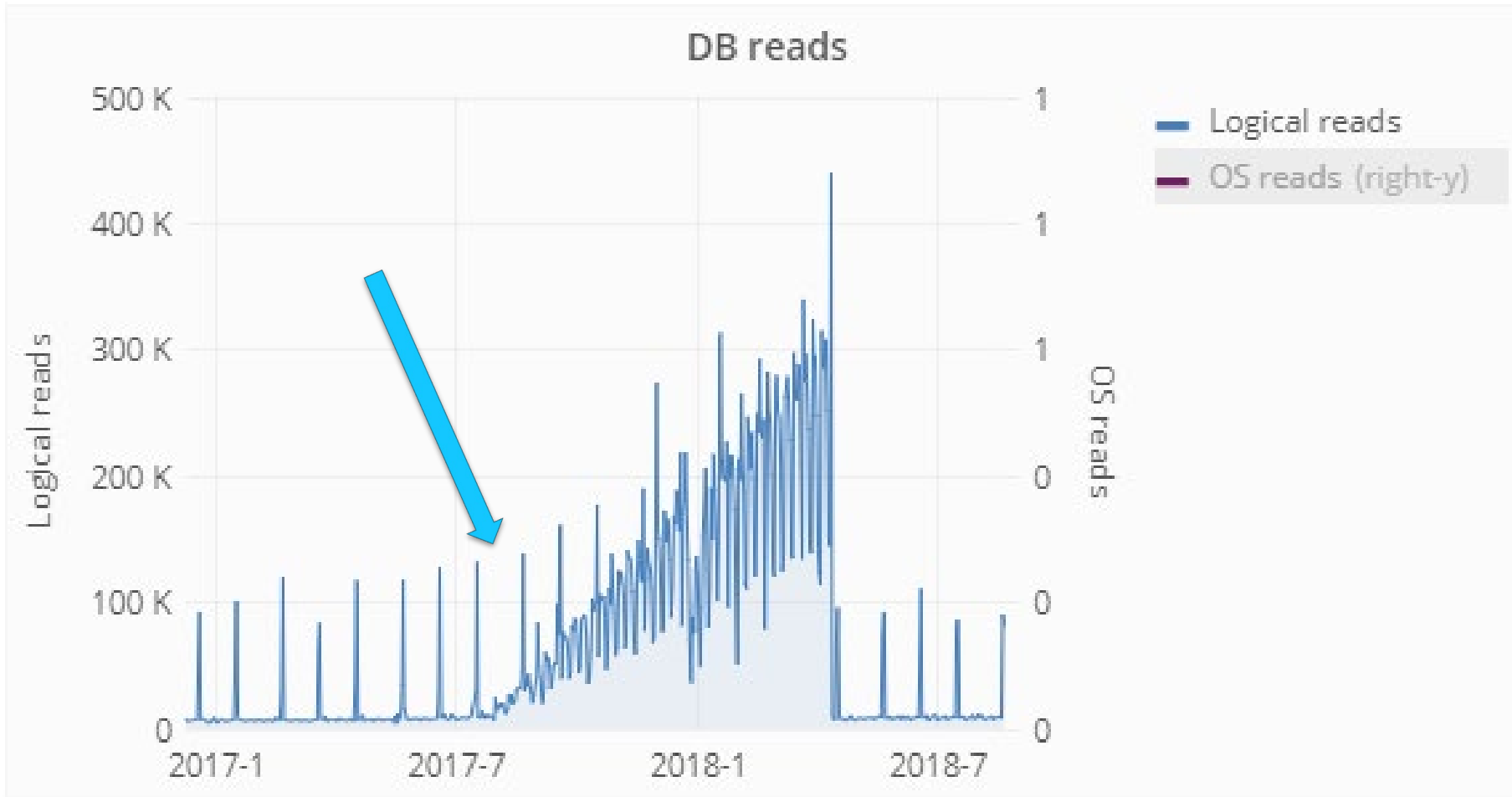
- What happened on Aug 1?

- CODE CHANGE!

#3: False Alarm?

- Spotty network between replication source and target

- OE Replication interruptions common

- Decrease sensitivity from 1:1 to 3:3, i.e. only generate alert if 3 failures in three samples

- Two SMS alerts generated: Replication down AND no heartbeat on target.
  - This is no false alarm! Power outage at DR site.

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Detect and correct
issues before they affect
your critical business processes

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Questions?