

Leveraging ProTop from Dev to Prod

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White Star
software

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?

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)



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

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 :



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

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

Blocked Sessions															
Usr	Tenant	Name	PID	Flags	Durati	v Wait	Resrc	Id	Table	Blocker-Usr#	Device	PID	Blocker-StatementCache	WaitList	BlkBy
> 14	0	paul	17115	S4B*	00:00:24	REC	XQH	385	Customer	12:batch:17111	?	15 16 17			12
15	0	paul	17113	S4B*	00:00:24	REC	XQH	385	Customer	12:batch:17111	?	14 16 17			12
16	0	paul	17114	S4B*	00:00:24	REC	XQH	385	Customer	12:batch:17111	?	14 15 17			12
17	0	paul	17112	S4B*	00:00:24	REC	XQH	385	Customer	12:batch:17111	?	14 15 16			12

```

sportsizv 0 0
/data/sportsizv/sportsizv

Login Name: paul          Login Time: Thu May 23 03:48:37 2019      Logical Rd:          0          BI Reads:          0
  Usr#: 12                Device/IP:                                Disk Reads:         0          BI Writes:         0
Connect Id: 13           Full Name:                                Hit%                0          AI Reads:          0
  PID: 17111             Phone:                                    Logical Wr:         0          AI Writes:         0
  Server: 0              E-Mail:                                Record Locks:      0
Session Info: ABL SELF S4B* Batch TRX
TRX Info: BEGIN FWD 428 Duration:  Waiting On:  --  0
  
```



DEMO #4: Other cool features

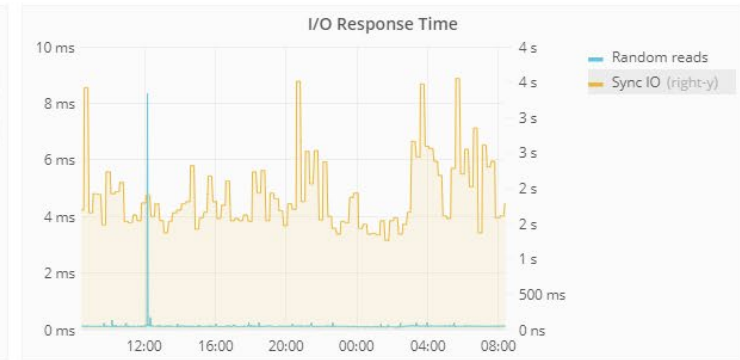
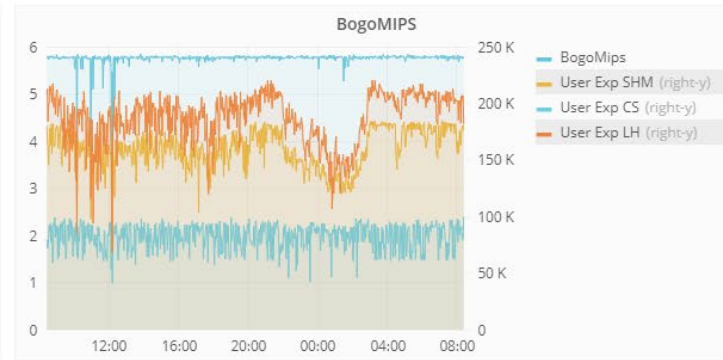
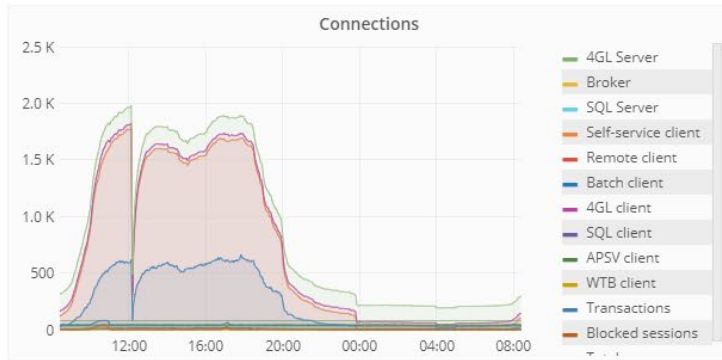
- (T)able and Index Range Info
- Ctrl-P: Programmer Mode
- Ctrl-D: Dump & Load scripts (free vs paid version)
- Ctrl-U: Update Statistics scripts
- Ctrl-R: Generate DB Analysis
- Y: Session user*stats
- y: Profiler

DEMO #5: web portal

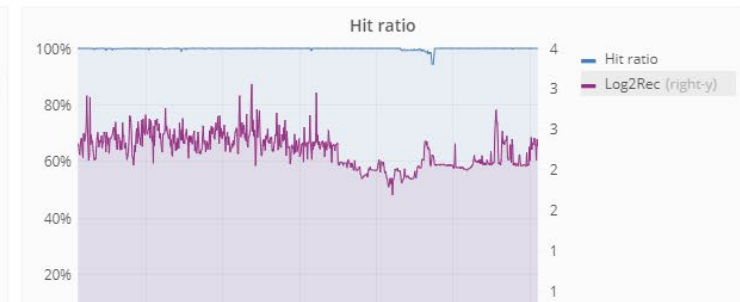
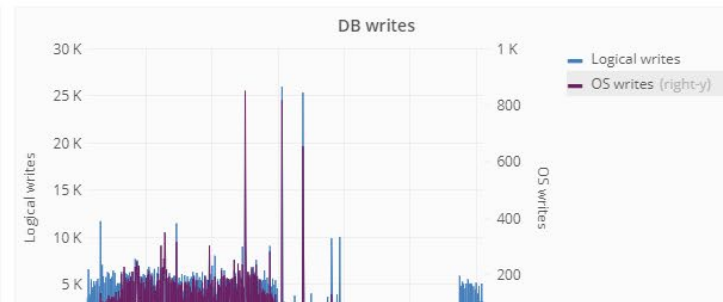
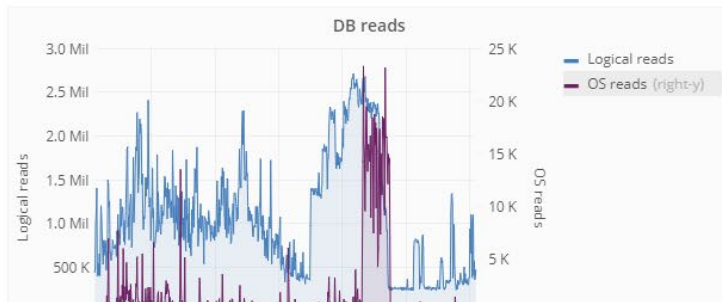
Latest Status

Last full backup	Current AI	Full AI extents	Locked AI extents	Empty AI	Curr. AI seq	Lock HWM	Lock table size	Avail. TRS	Avail. IRS	DB Size	Version
7 hour	3_of_12	0	0	11	59907	229.30 K	1000000	212	313	960 GiB	11.7.3_64bit

General info



Database I/O



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

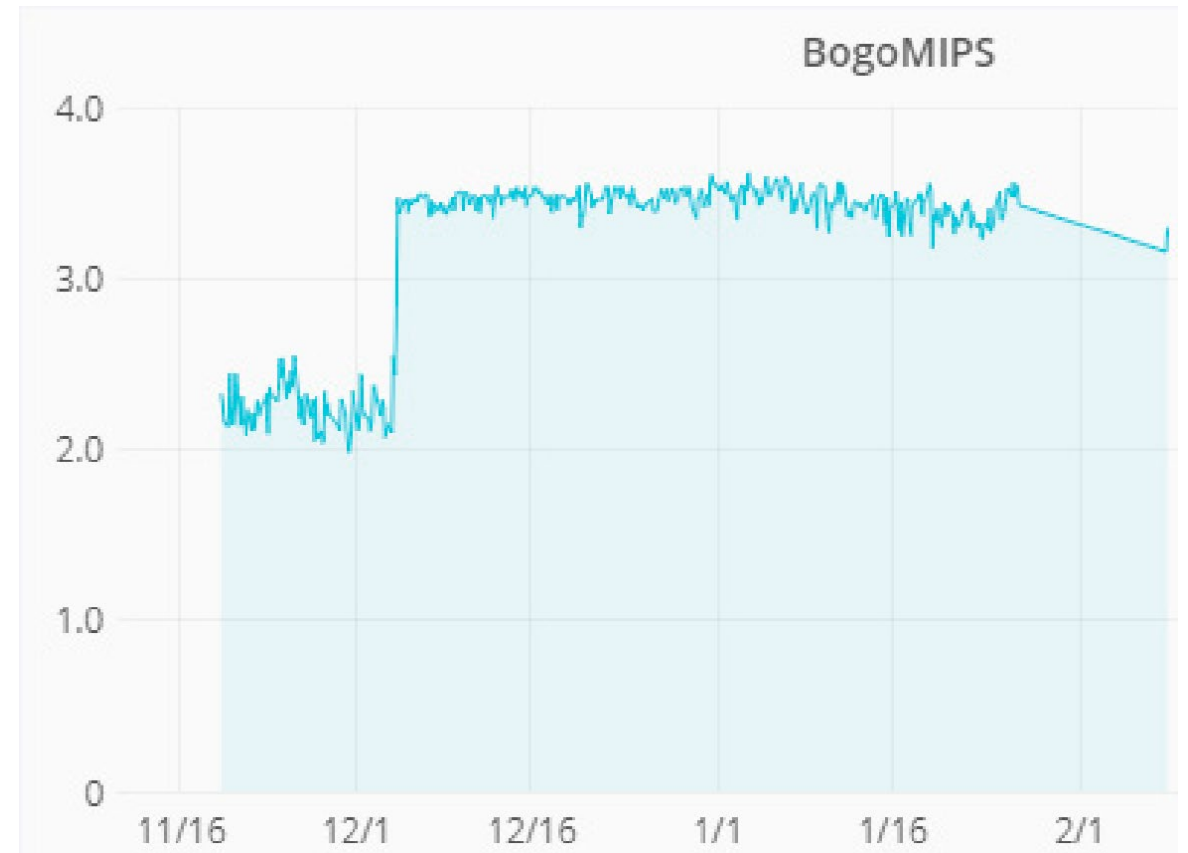
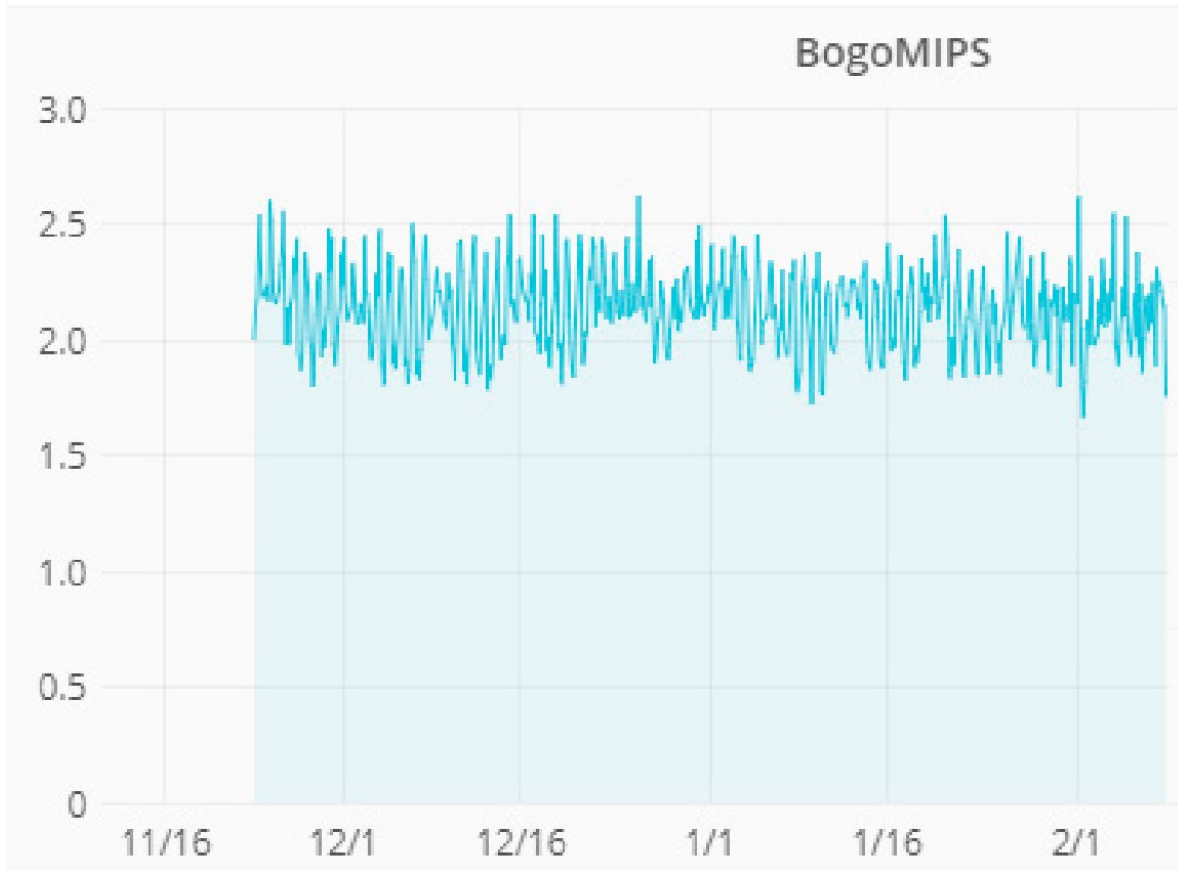
- HIGH bogoMIPS:
 - 6 or higher = fast Intel Xeon CPU
 - 4 to 6 = older Xeon CPU
 - Less than 4 = old and slow
- HIGH User Experience SHM: The faster you can read records from –B, the better
- Relatively high User Exp LH and CS: LH should be close to SHM. CS varies based on a number of factors
- Random 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)



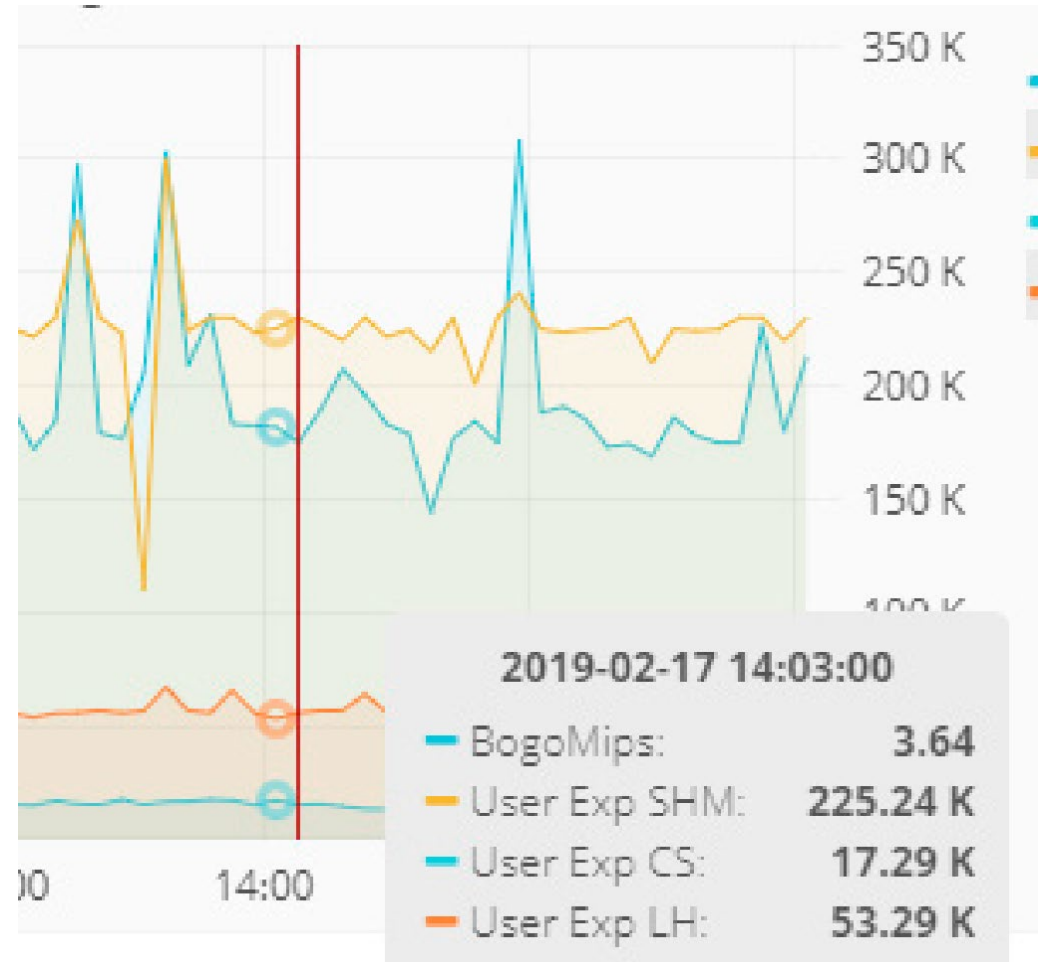
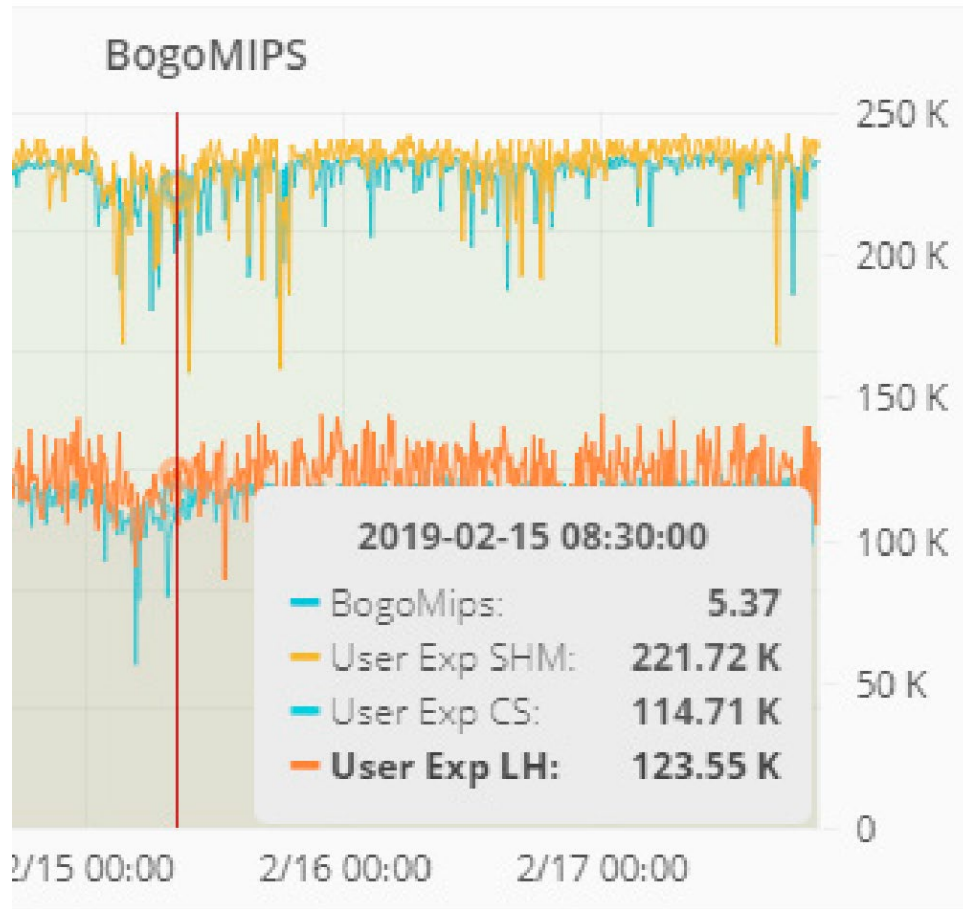
DEMO #6: System metrics

- Flat vs variable bogomIPS
- Relative User Exp SHM vs LH vs CS

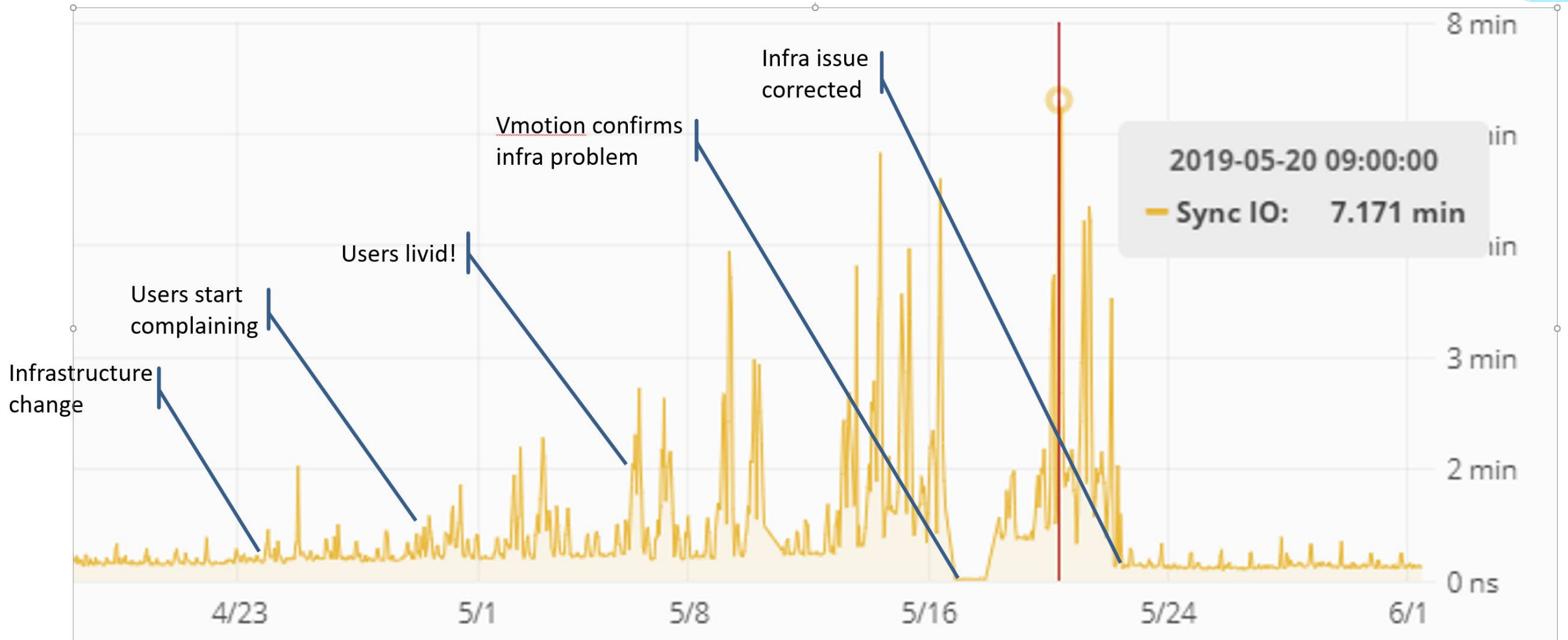
System metrics: problematic results



System metrics: problematic results



System metrics: problematic results



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

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

protop Home > Dashboard
community Last Update: 2019/03/31 20:27:03 Welcome, Demo User

Critical Resources

Name	HB Age	Bkp Age	Alert Status	Crit	Blocked	Tix	Cur Lk	Bl Cts	HEM	Log Rd	OS Rd	LatchTMO	Io Resp
demo329_db_5581	01:01:34	48:04:15	2	6	0	0	0	0	100.00%	158	0	0	6.37
demo329_db_5582	01:01:34	48:04:13	2	6	0	0	0	0	100.00%	143	0	0	3.17
demo189_db_4843	00:00:34	14258:14:42	4	9	0	0	0	0	100.00%	0	0	0	0.02
demo352_db_5563	00:00:34	02:23	0	80	0	4	0	0	100.00%	777	0	0	0.48
Health_db_5530	00:00:34	02:16	0	161	0	0	0	0	100.00%	45	0	0	0.79
Health_db_5534	00:00:34	02:12	0	162	0	0	0	0	99.83%	772	1	0	0.21
Health_db_5531	00:00:34	02:12	0	182	0	0	0	0	100.00%	84	0	0	0.98
demo335_db_5436	00:00:34		28	0	0	0	0	0	0.00%	0	0	0	0.00
Winchester_db_4878	00:00:34	14:17:24	4	52	0	11	0	0	99.90%	1,596	2	0	5.83
Health_db_5533	00:00:34	02:14	0	193	0	681	1	0	100.00%	249,278	10	0	0.75

Critical Alerts

20:09:11	demo214_db_4973	ai_Empty Empty AI Extends 0 < 2
20:08:48	Health_db_5530	(334) protect: list: session end.
20:08:47	Health_db_5530	(451) protect: list: session begin: for guard on /dev/psu0.
20:08:38	demo337_db_5455	dbDown c:\media\bases\webs [DOWN] missing .ik file
20:08:27	Health_db_5533	(7129) User 242 set name to
20:07:42	demo352_db_5563	str: User transaction 830352 > /200
20:07:28	demo214_db_4979	ai_Empty Empty AI Extends 0 < 2
20:07:22	demo352_db_5563	(13154) Marked after-image extent /u/egzpro/egzproa1 EM...
20:06:19	demo214_db_4980	ai_Empty Empty AI Extends 0 < 2
20:06:08	demo214_db_4971	ai_Empty Empty AI Extends 0 < 2
20:05:23	demo337_db_5447	dbDown c:\media\bases\image [DOWN] missing .ik file
20:05:23	demo337_db_5446	dbDown c:\media\bases\image [DOWN] missing .ik file
20:05:22	demo337_db_5445	dbDown c:\media\bases\image [DOWN] missing .ik file
20:05:21	demo337_db_5444	dbDown c:\media\bases\image [DOWN] missing .ik file
20:04:27	demo337_db_5442	dbDown c:\media\bases\image [DOWN] missing .ik file
20:04:21	demo214_db_4977	ai_Empty Empty AI Extends 0 < 2
20:04:06	demo214_db_4987	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:04:05	demo214_db_4980	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:04:04	demo214_db_4984	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:04:03	demo214_db_4983	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:04:02	demo214_db_4982	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:03:26	demo214_db_4985	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:03:41	demo27_db_7	dbDown E:\bd\prof\image [DOWN] missing .ik file
20:03:16	Health_db_5532	(453) Logout by root on batch.
20:03:15	Health_db_5532	(452) Login by root on batch.
20:03:10	demo214_db_4974	ai_Empty Empty AI Extends 0 < 2

Resources

Name	HB Age	Bkp Age	Alert Status	Crit	Blocked	Tix	Cur Lk	Bl Cts	HEM	Log Rd	OS Rd	LatchTMO	Io Resp
+ bank2		00:00:00											
+ bank		00:00:00											
+ chocolate		00:00:34	12										
+ c:\egzproa1		00:00:00											
+ demo106		00:00:33	50										
+ demo113		00:00:00	0										
+ demo116		00:00:33	2										
+ demo117		00:00:34	0										
+ demo146		00:00:33	17										
+ demo15		00:01:33	21										
+ demo150		00:00:33	6										
+ demo189		00:00:33	4										
+ demo176		00:00:00											
+ demo183		00:00:33	0										
+ demo184		00:00:34	9										
+ demo190		00:00:33	27										
+ demo196		00:00:00											
+ demo214		00:23:33	6										
+ demo215		00:00:00											
+ demo216		23:59:59	0										
+ demo217		00:00:34	4										
+ demo218		01:02:27	2										
+ demo221		00:00:00	4										
+ demo227		00:01:33	12										
+ demo237		00:00:00	0										

Alerts Feed

2019/03/31		
20:26:19	demo329_db_5581	dbDown /db/egzpro/egzproa1 [DOWN] missing .ik file
20:26:08	demo329_db_5582	dbDown /db/egzpro/egzproa1 [DOWN] missing .ik file
20:24:20	demo189_db_4843	dbDown /db/egzpro/egzproa1 [DOWN] missing .ik file
20:23:22	demo352_db_5563	(455) Logout by Amage list on batch.
20:23:21	demo352_db_5563	(7129) User 65 set name to Amage list.
20:23:20	demo352_db_5563	(452) Login by root on batch.
20:23:02	locu_db_5463	(794) Usernum 1668 terminated abnormally.
20:23:01	locu_db_5462	(794) Usernum 1846 terminated abnormally.
20:21:54	demo343_db_5502	TRX TRX/acc 0415 > 5000
20:19:24	Winchester_db_4878	ai_Locked Locked AI Extends 34 > 1
20:19:18	Winchester_db_4878	ai_Empty Empty AI Extends 0 < 2
20:18:40	Health_db_5530	(452) Login by guard on /dev/psu0.
20:18:39	Health_db_5530	(453) Logout by guard on batch.
20:17:53	Health_db_5534	(7129) User 244 set name to Amage list.
20:17:42	Health_db_5531	(7129) User 256 set name to Amage list.
20:16:58	demo30_db_4787	(1362) Full backup started.
20:16:43	demo398_db_5815	(794) Usernum 463 terminated abnormally.
20:16:42	demo398_db_5814	(794) Usernum 461 terminated abnormally.
20:16:41	demo398_db_5813	(794) Usernum 461 terminated abnormally.
20:16:41	demo398_db_5812	(794) Usernum 461 terminated abnormally.
20:16:37	demo30_db_4786	(1364) Full backup successfully completed.
20:16:05	Health_db_5531	(3789) Marked after-image extent /u/egzpro/egzproa1 EM...
20:15:59	Health_db_5531	(11809) Unlocking after image file 206 and locking ALL FU...
20:15:23	Health_db_5534	(452) Login by guard on batch.
20:15:22	demo335_db_5436	fsPoolUsed Disk space % 88.32 > 60
20:15:21	demo335_db_5436	fsPoolUsed Disk space % 88.32 > 60
20:15:13	demo27_db_7	ai_Empty Empty AI Extends 0 < 2
20:15:12	Lumber_db_4662	(43) ** Cannot find or open file .\csd\check2.w, err...
20:15:06	Lumber_db_4661	(43) ** Cannot find or open file .\csd\check2.w, err...
20:14:40	Lumber_db_4662	(43) ** Cannot find or open file .\csd\check2.w, err...

DEMO #8: Advanced Dashboards

- Years of history
- Table and Index Statistics
- AppServer
- Latches
- Configuration
- Server (Linux and Windows)
- PASOE
- Raw data (dedicated portal only)

DEMO #9: Health Check

- Automated periodic health checks
- Categorized and sorted by priority

CASE STUDY: Variable performance across customers

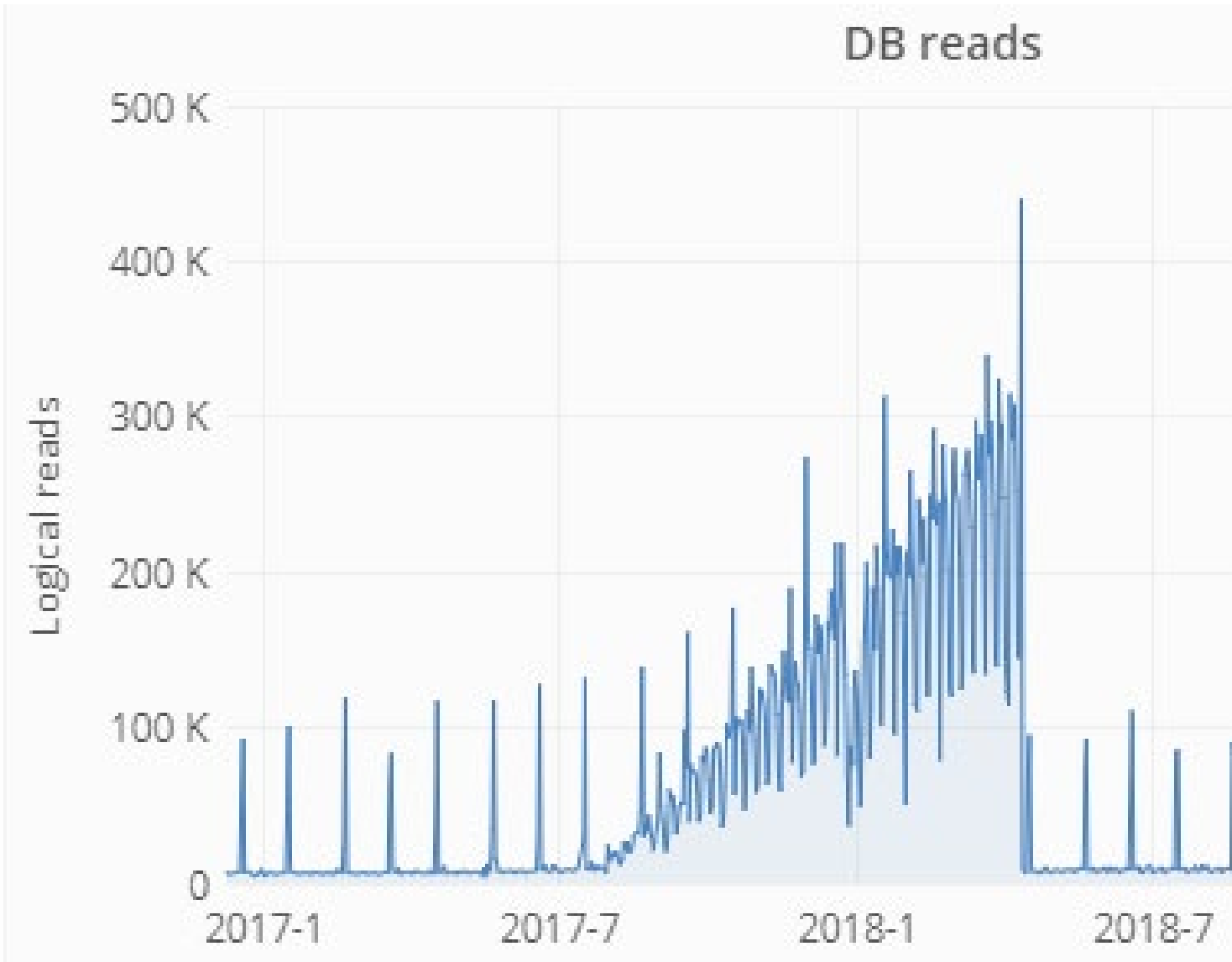
- Partner with 100+ sites
- Small subset of customers complaining of unacceptable performance
- Code is the same. Why such massive differences across installations?
- Partner suspects infrastructure but customers Did not believe them
 - No proof !!

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

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





protop

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Detect and correct
issues before they affect
your critical business processes



Questions?



White Star
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