



Progress OpenEdge MDBA Services

Marek Bujnarowski

Progress MDBA

Database Administration With Peace of Mind

Comprehensive database expertise at your service from
the people who helped build it.



The Managed Database Services **Global** Team

- **Mike Furgal** – Director of MDBA & Pro2 Services

- Former Developer of the database



- **North America Support**

- 6 Senior Consultants – each with 20+ years experience
- Technical Support & Consulting background

- **Australia Support**

- 3 Senior Consultants – each with 20+ years experience
- PSC Technical Support background

- **EMEA Support**

- 3 Senior Consultants - each with 20+ years experience
- 1 Senior Consultant/Manager
- PSC Technical Support & Consulting background



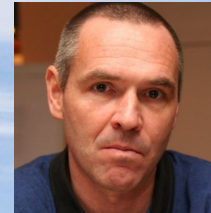
95% of surveyed businesses using Progress Managed DBA describe the knowledge and experience of their Progress consultants as really great or “off the charts amazing!”

The Managed Database Services **EMEA** Team

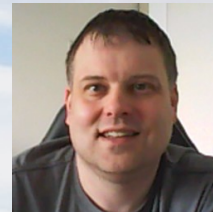
- **Libor Laubacher** – our **Genius** in the field



- **Vladimir Zalda** – our **Expert** link to Pro2 Team

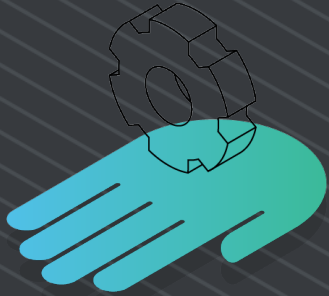


- **Kevin Jones** – our **Top Man** in UK



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Database Consulting



Need a Hand?
Consulting Services

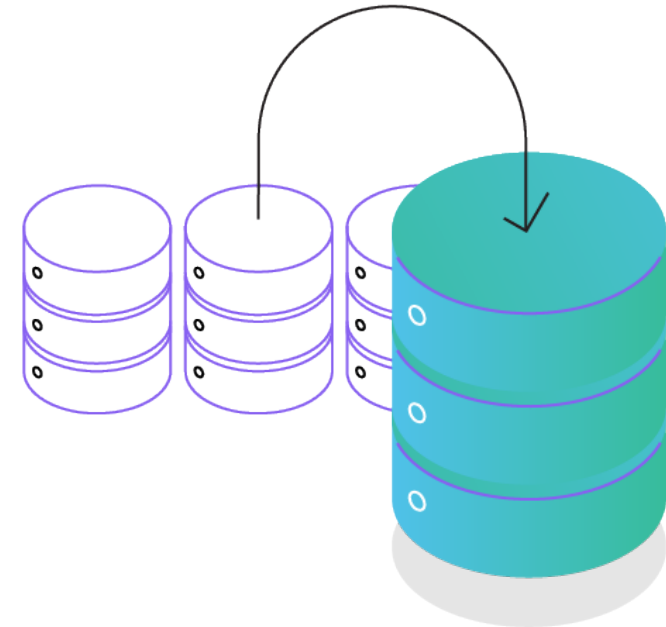
- DBA team is available for database projects
- Platform Migration
 - We do this once a month for a customer
- Dump and Loads
 - We do this every weekend
- OpenEdge Version Upgrades

■ OpenEdge Feature Implementation

- OpenEdge Management
- OpenEdge Auditing
- Transparent Data Encryption
- Table Partitioning
- OpenEdge Replication
- OpenEdge Multi-tenancy
- OpenEdge SSL
- etc

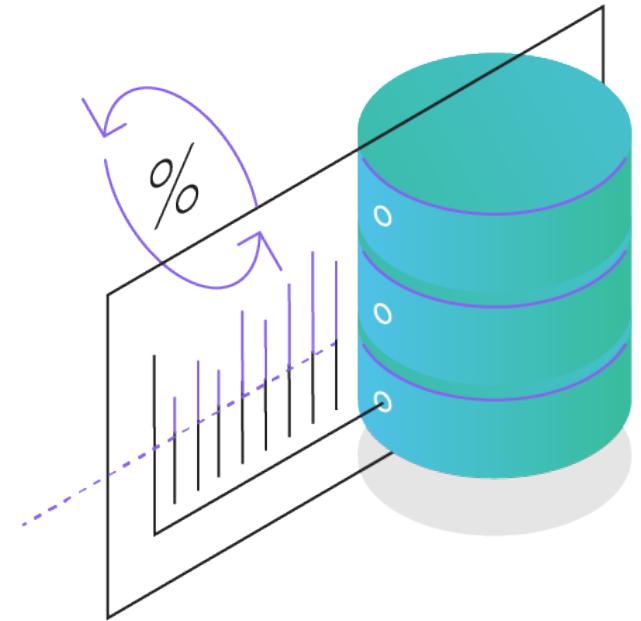
Disaster Recovery Planning

- Create a DR strategy for your OpenEdge database
- Built on the knowledge from the MDBA Service
- Database experts provide the know-how to ensure continuous service and availability with zero latency
- Uses OpenEdge Replication and Replication Plus
- Flexible, affordable and specifically designed to support your Progress-based systems



Database Health Checks

- Comprehensive look at the application environment
 - Collect performance metrics for 24 hours or more
 - Machine configuration and speed of various components
 - Database configuration
 - AppServer and WebSpeed configuration
 - Client configuration
- DB Health Check Report
 - Comprehensive – 30+ page reports
 - Shows key metrics and graphs
 - Value based recommendations



Managed Database Administration

- Software based solution
 - Sampling and monitoring software installed
 - Sends email alerts to on-call DBA
 - Each database has it's own thresholds
- Each customer has a Primary DBA
 - Clear documentation for on-call rotation
- On-call
 - No level 1 support – DBA Team is on-call
- On-boarding Service
 - Install the management software
 - Document the environment
 - Make stability and tuning recommendations
 - A Mini DB Health Check
- Web based monitoring dashboard
- Monthly Reports

**All for a valued-based monthly
Subscription**

What the service includes

■ Included

- Any Reactive Service for business critical issues
 - Normal billing rates start after the 1st hour
- Web Based Dashboard
- Proactive Analysis
- Monthly Reports
 - Provide 6 month trend
 - Capacity planning forecast for next 6 month period
 - Identifies upcoming maintenance items
- Technical Advice

■ Not Included

- Planned Maintenance
- Non-production Issues
- Project work
- Database Health Checks
- Disaster Recovery

Managed Database Metrics

Customers	120+
Number of Databases	1,900+
Total Database Size	85+Terabytes
Total Connected Users	157,000+

Metrics as of March 2017

Progress MDBA Customers

Direct Customers and End-users of Application Partners

MANUFACTURING



HEALTHCARE



WAREHOUSING & DISTRIBUTION



FINANCIAL SERVICES



Progress MDBA Customers in EMEA



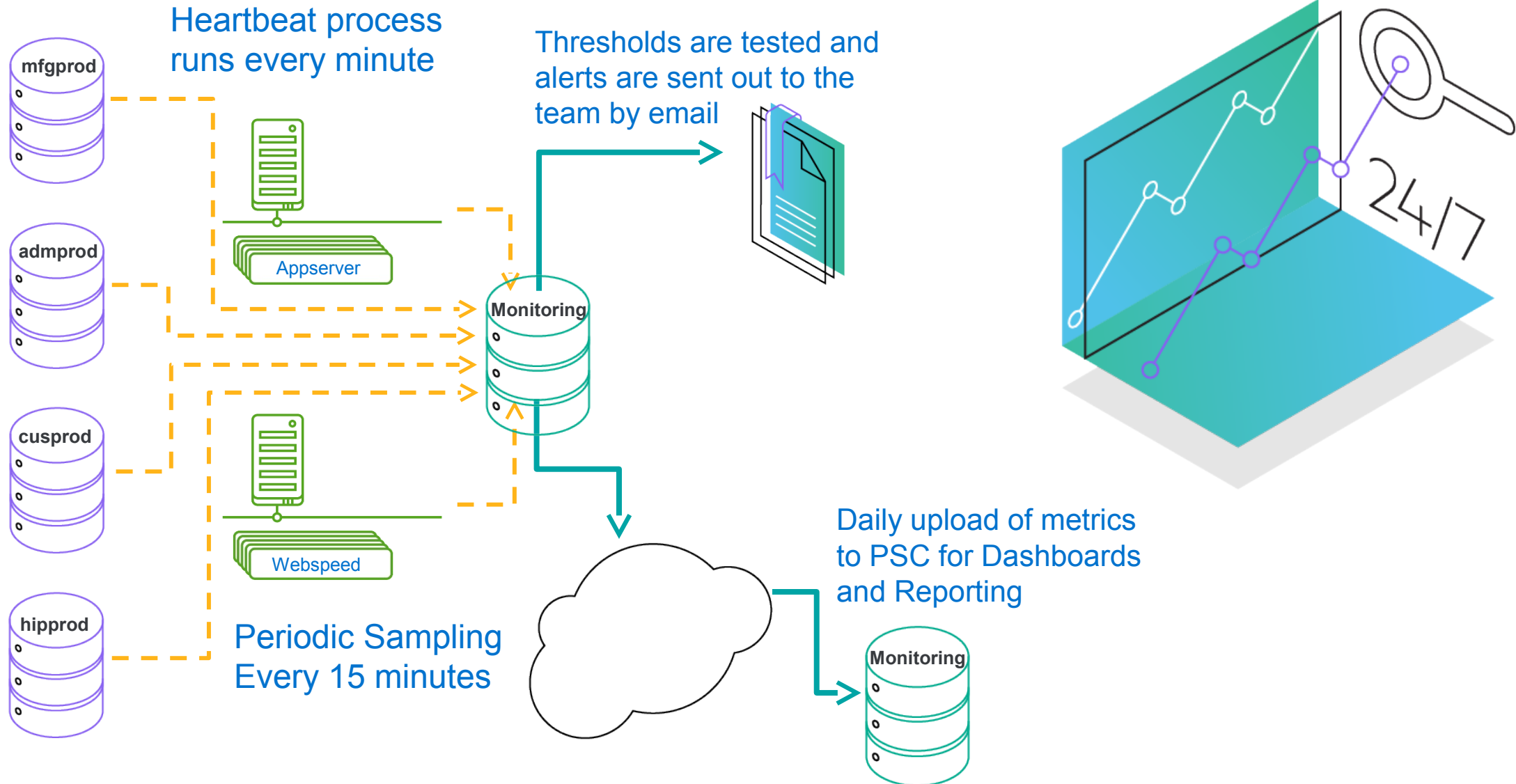
Nice-Pak International



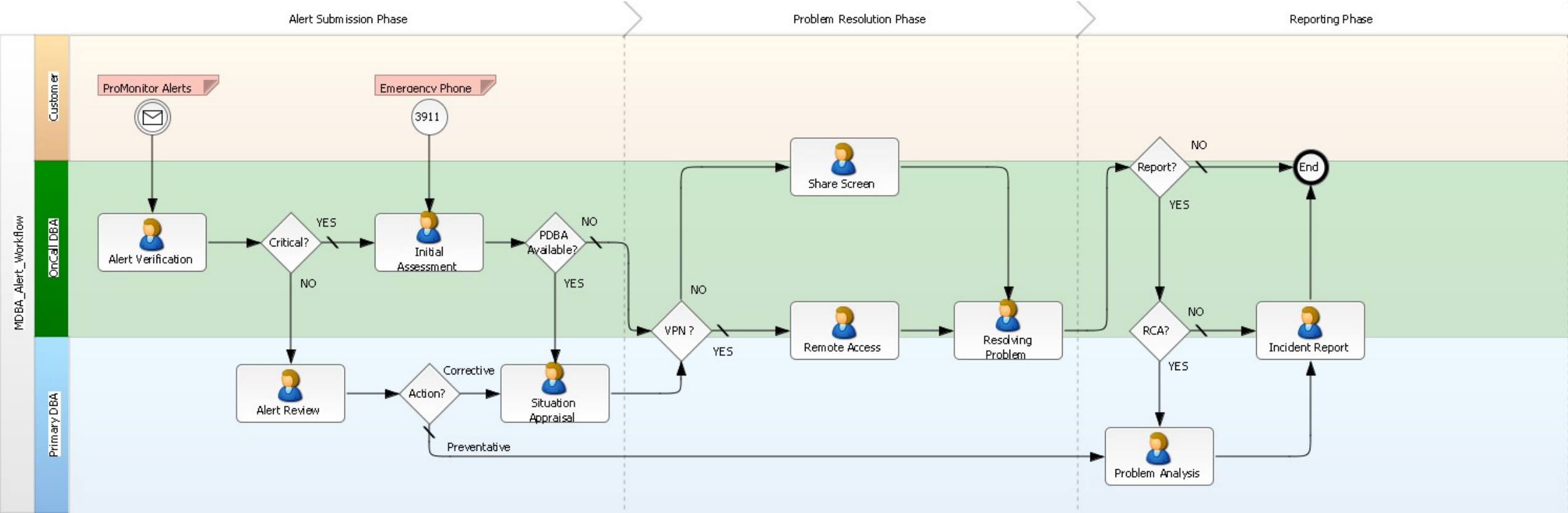
Taylor Wimpey



Monitoring Infrastructure - ProMonitor



Critical Alerts Workflow



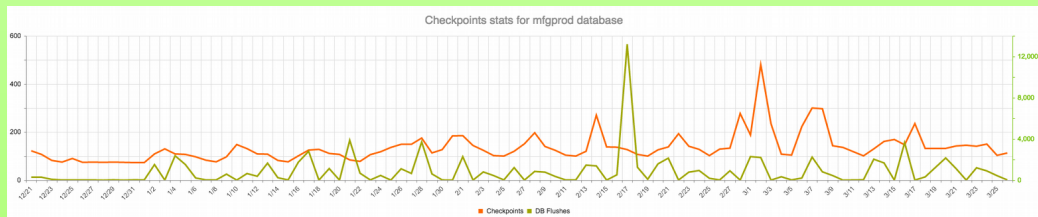
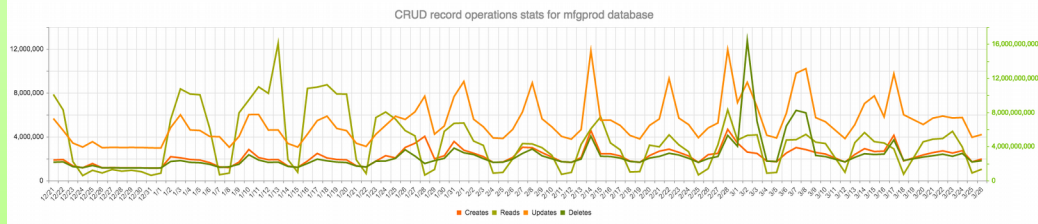
Dashboards & Trending Data

Busiest Table Report
Database: admprod

Table	Reads	Recs in Table	Ratio	Size (GB)	Creates	Updates	Deletes
edtar_mstr	9,330,782	330,987	28.19	0.05	238	238	0
edtmx_ref	688,230	47,102	14.61	0.01	30	0	0
lblid_det	503,805	32,383	15.56	0.00	0	0	0
edapprx_ref	424,007	514,521	0.82	0.13	17	573	0
mnds_det	212,900	178	1,196.07	0.00	0	0	0
lbl_mstr	70,161	17,817	3.94	0.00	0	0	0
edtrv_mstr	48,370	13,463	3.59	0.00	0	0	0
edtrd_det	33,480	7,338	4.56	0.00	0	0	0
edmidd_det	26,215	4,342	6.04	0.00	0	0	0
edtrp_mstr	25,064	8,983	2.79	0.00	0	0	0
Total	11,363,014	977,114			285	811	0
Grand Total	1,263,229,012				230,075	448,005	25,154

Database: cssbdprod

Table	Reads	Recs in Table	Ratio	Size (GB)	Creates	Updates	Deletes
wpro_cust_item	24,172	3,020	8.00	0.00	6,042	6,042	6,042
wpro_cust	9,471	50	189.42	0.00	0	0	0
wpro_item_types	6,245	12	520.42	0.00	24	0	24
wpro_user_detail	361	87	4.15	0.00	0	0	0
wpro_Registry	206	255	0.81	0.00	0	0	0
wpro_contact_master	13	8	1.63	0.00	0	0	0
wpro_user_master	5	42	0.12	0.00	0	0	0
wpro_contact_xref	3	3	1.00	0.00	0	0	0
wpro_idx	0	50	0.00	0.00	0	0	0
wpro_data_trans	0	1,454	0.00	0.00	0	0	0
Total	40,476	4,981			6,066	6,042	6,066
Grand Total	11,635,689				91,691	96,300	85,900



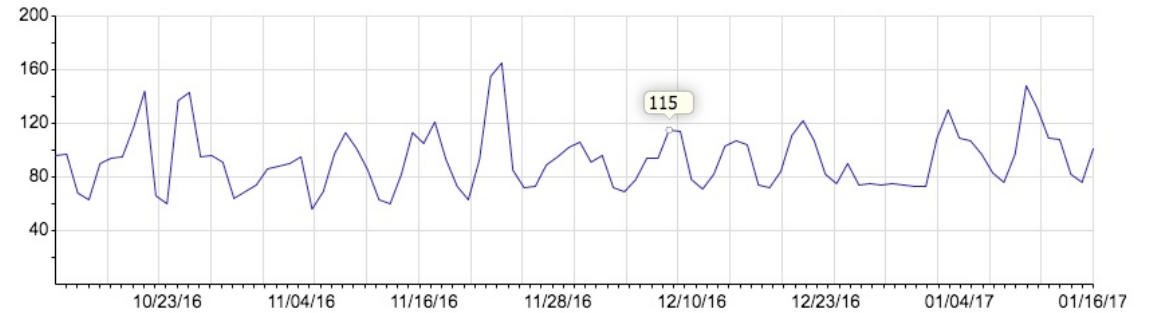
General Info		DB Info		BI Info		AI Info	
DBA:	MB	Blocksize	8 KB	Blocksize	16 KB	Blocksize	16 KB
Database:	mfgprod	DB Size	178,995 MB	Cluster Size	49,152 KB	# extents	48
Uptime:	72.57 Days	# Areas	78	BI Size	3,637 MB	AIW	yes
Version:	10.2B	Total Size	230,792 MB	# extents	TBD		
		Free Space	51,797 MB (22%)	Total Size	16,384		
		# APWs	2	Free Space	9,280 MB (57%)		
				BIW	yes		

Startup Parameters

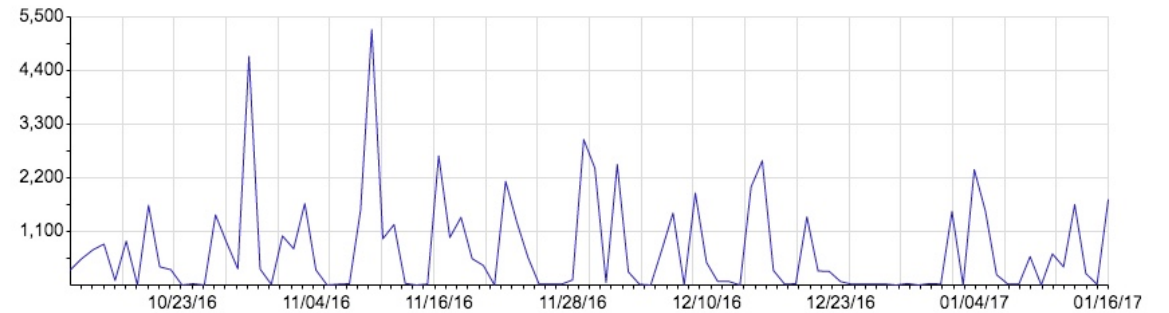
Buffer Pool (-B)	2,000,002 (15,625 MB)	Lock Table (-L)	320,000 (40,458 in-use)
Spinlocks (-spin)	50,000	Users (-n)	361 (135 Max)
Servers (-Mn)	17	Directio (-directio)	no
BI Buffers (-bibufs)	250	AI Buffers (-aibufs)	250

Activity [table DB Analysis](#)

Graph: Checkpoints

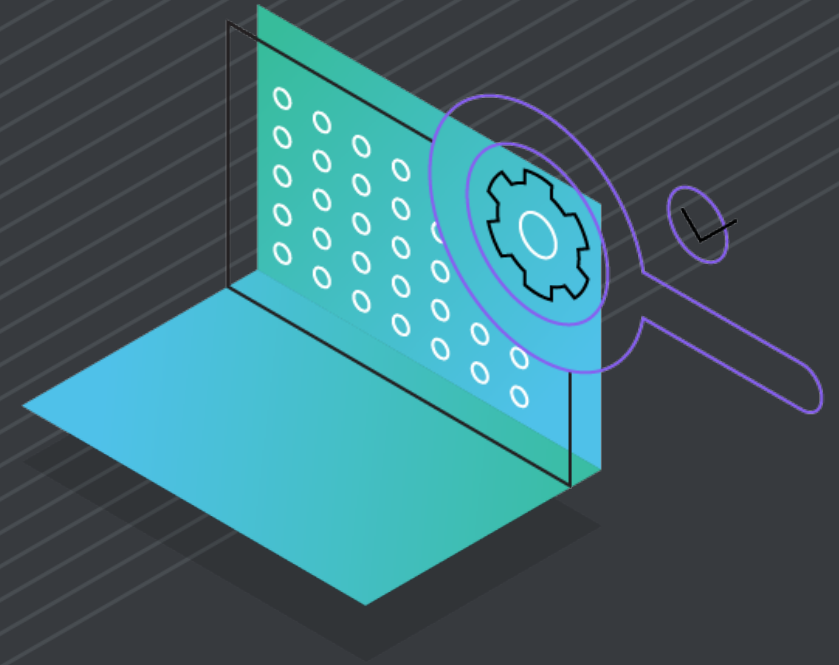


Graph: Blocks Flushed



MDBA Services

- Comprehensive Database Management
 - Extension of the existing team
 - Alerting, Trending, Planning
- Database Health Checks
 - Complete Analysis
 - Educational
- Largest and Strongest team in the industry
 - Includes follow the sun support



www.progress.com/mdba



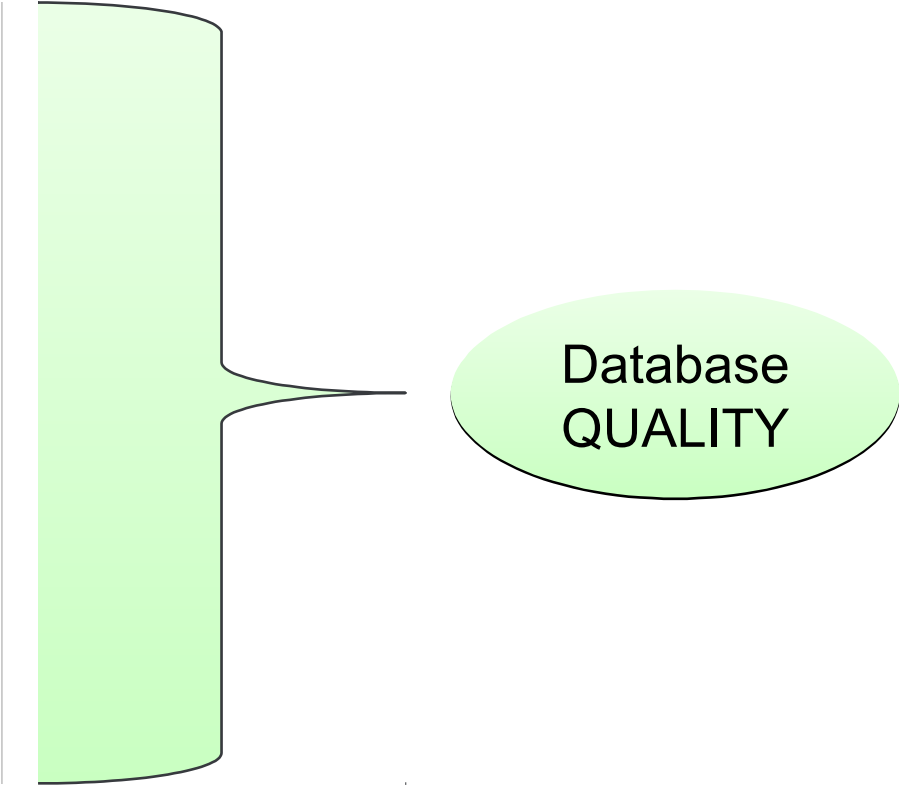
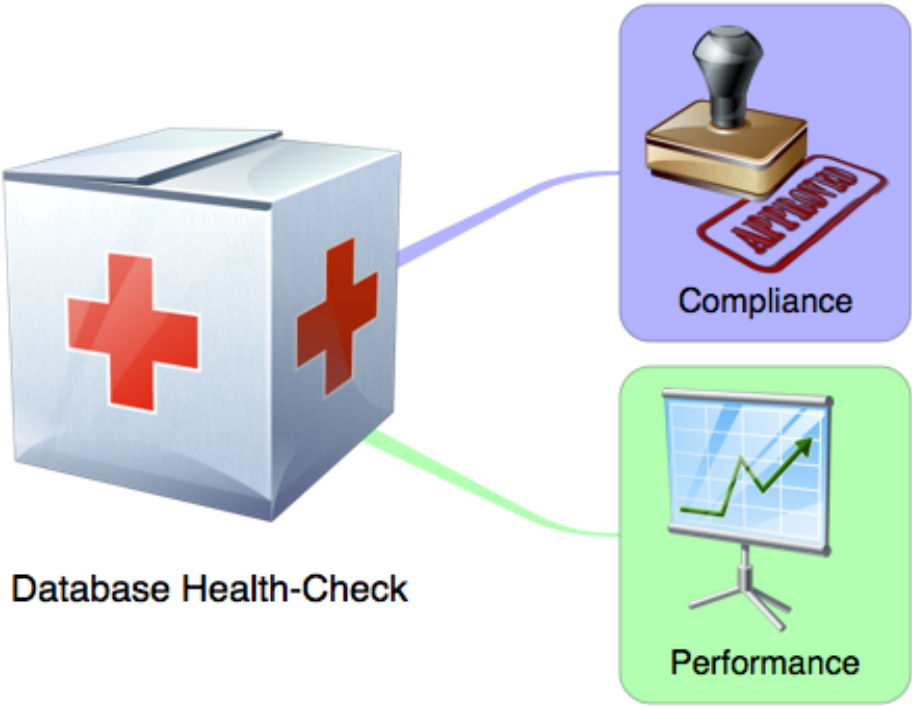
DB Health Checks – Package



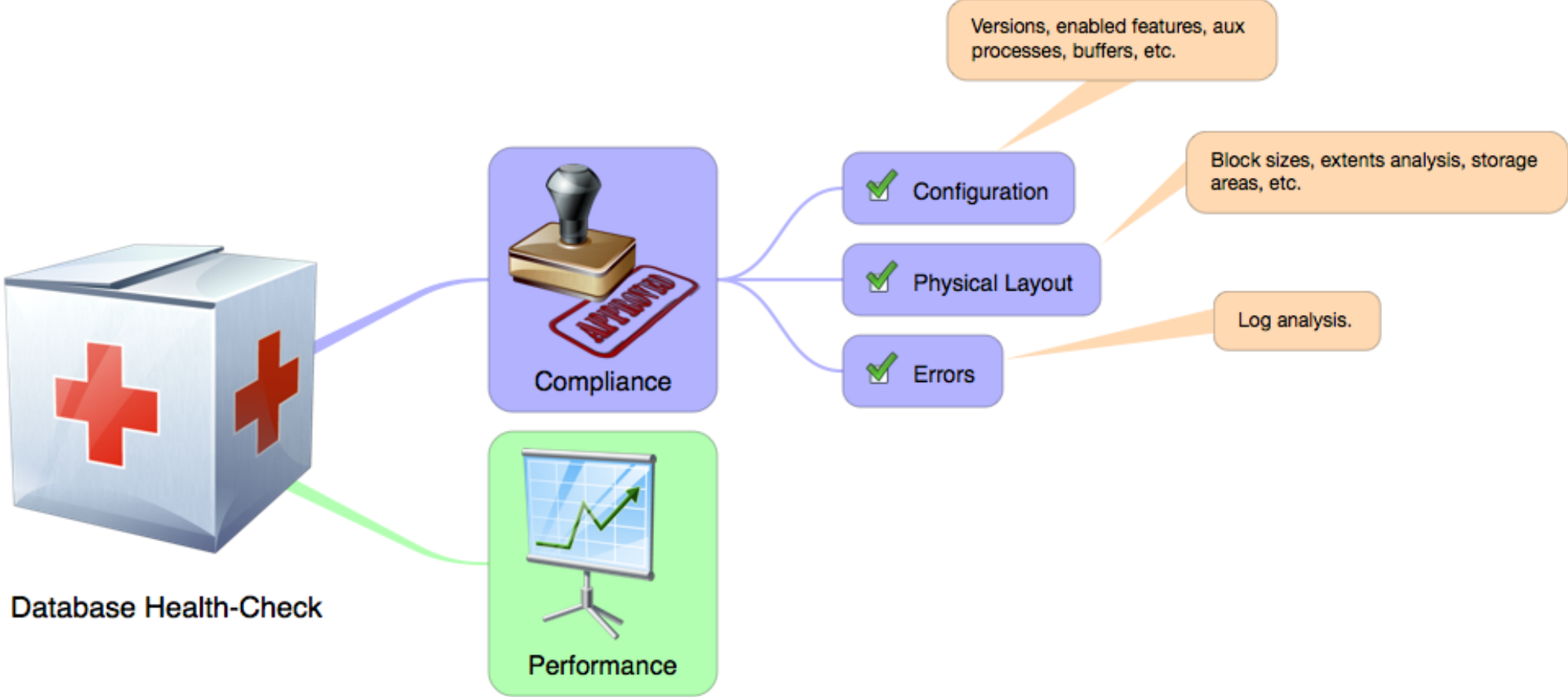
Database Health-Check



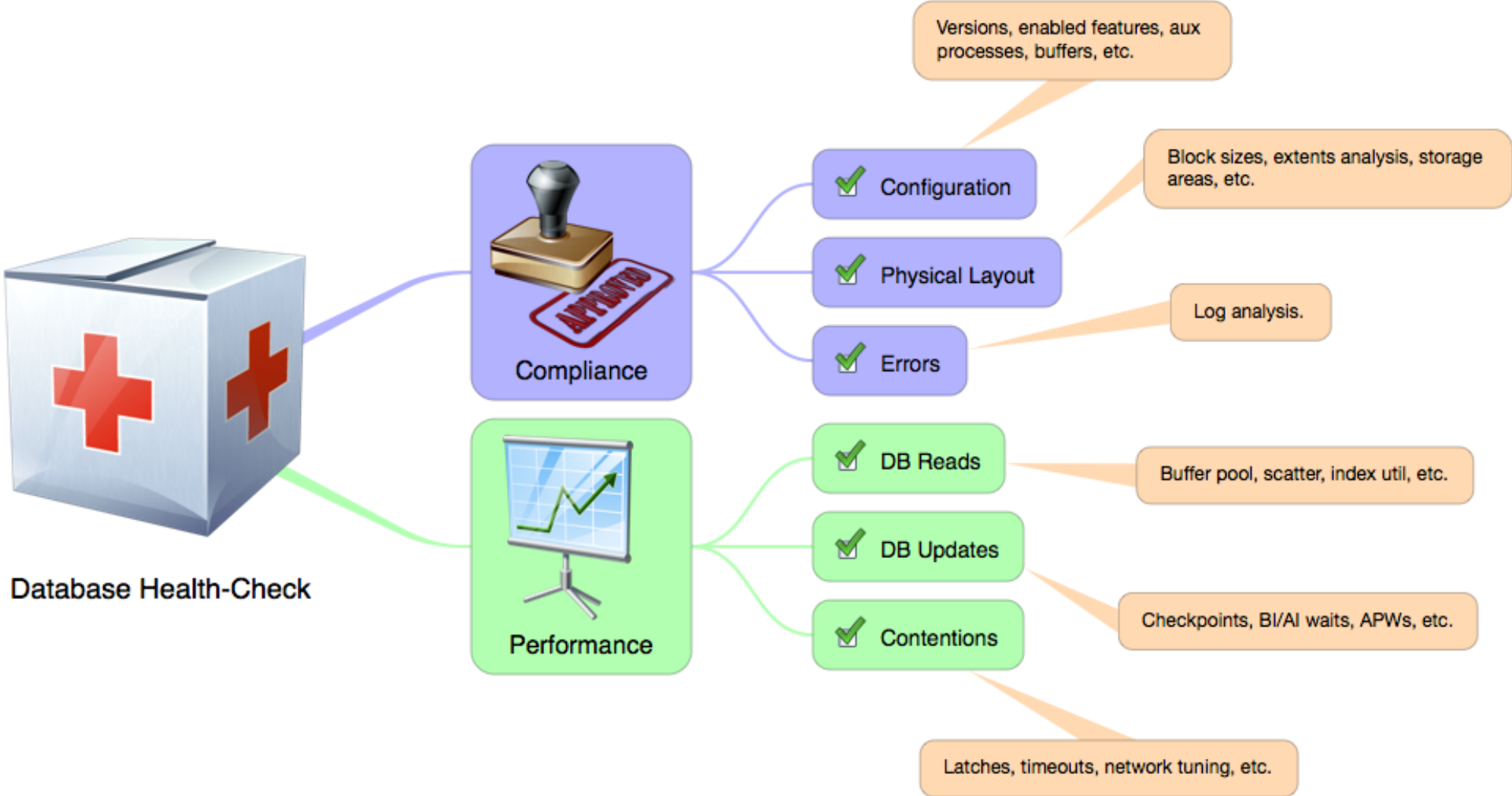
DB Health Checks – Scope



DB Health Checks – Comprehensive assessment



DB Health Checks – Comprehensive assessment



DB Health Checks – Report

N-tier Environment

Monitoring for AppServer and Webspeed brokers was running 18.5h on May 20th (from 5:20am until 11:50pm). The overall results are presented in the summary table

	qadfinlive	qadsi_ASlive	qadui_ASlive	qxosi_ASlive	qxoui_ASlive	qadui_WSlive	Remarks / Recommendations
Total Requests (18.5h)	141080	3	30902	3	3	6158	👍 The numbers are within expect
Req Duration (avg)	34.7 ms	11.4 ms	118.3 ms	3 ms	4 ms	0 ms	👍 The numbers are within expect No need for any action.
Req Waits (avg)	0 ms	0.1 ms	2.5 ms	0 ms	0 ms	0 ms	👍 The numbers are within expect observation period. No need for an
Act Clients (max)	126	1	89	1	1	1	👍 The numbers are within expect
Client Queue (max)	0	0	1	0	0	0	👍 There were no significant numb
Availability	✅	✅	✅	✅	✅	✅	👍 During sampling period all Appt agents ready to process requests.

Figure 42: Summary Table for all unified brokers

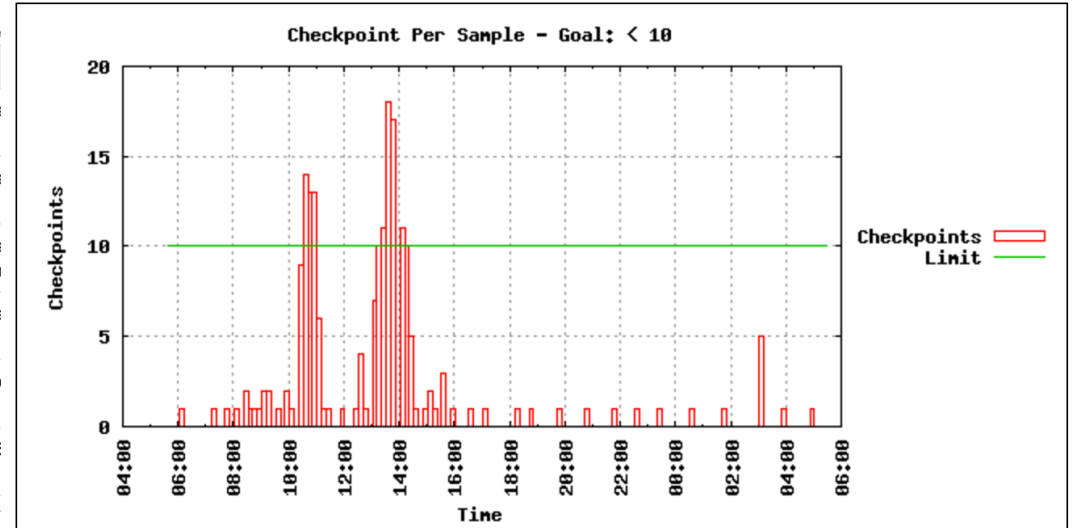


Figure 29: Checkpoint graph per sample

Least Recently Used

05/20/16 Activity: Latch Counts
12:06:54 05/20/16 11:56 to 05/20/16 12:06 (10 min 0 sec)

Owner	Total	Locks /Sec	Busy /Sec	Pct	Naps /Sec
MTX	94845	158	0	0.0	0
USR	182	0	0	0.0	0
OM	3271380	5452	0	0.0	0
BIB	106033	176	0	0.0	0
SCH	1515	2	0	0.0	0
LKP	1221018	2035	0	0.0	0
GST	2	0	0	0.0	0
TXI	54967	91	0	0.0	0
LKT	30585715	50976	0	0.0	0
LKT	30038621	50064	0	0.0	0
LKT	30416674	50694	0	0.0	0
LKT	30436300	50727	0	0.0	0
SEQ	7784	12	0	0.0	0
ATB	92079	153	0	0.0	0
TXQ	96040	160	0	0.0	0
EC	0	0	0	0.0	0
LKF	96310136	160516	0	0.0	0
BFP	894572	1490	0	0.0	0
BHT	106659263	177765	0	0.0	0
PMQ	0	0	0	0.0	0
CPQ	39051	65	0	0.0	0
LRU	105008918	175014	0	0.0	0
LRU	0	0	0	0.0	0
BUF	52235420	87059	0	0.0	0
BUF	54374200	90623	0	0.0	0
BUF	52221126	87035	0	0.0	0
BUF	52192015	86986	0	0.0	0

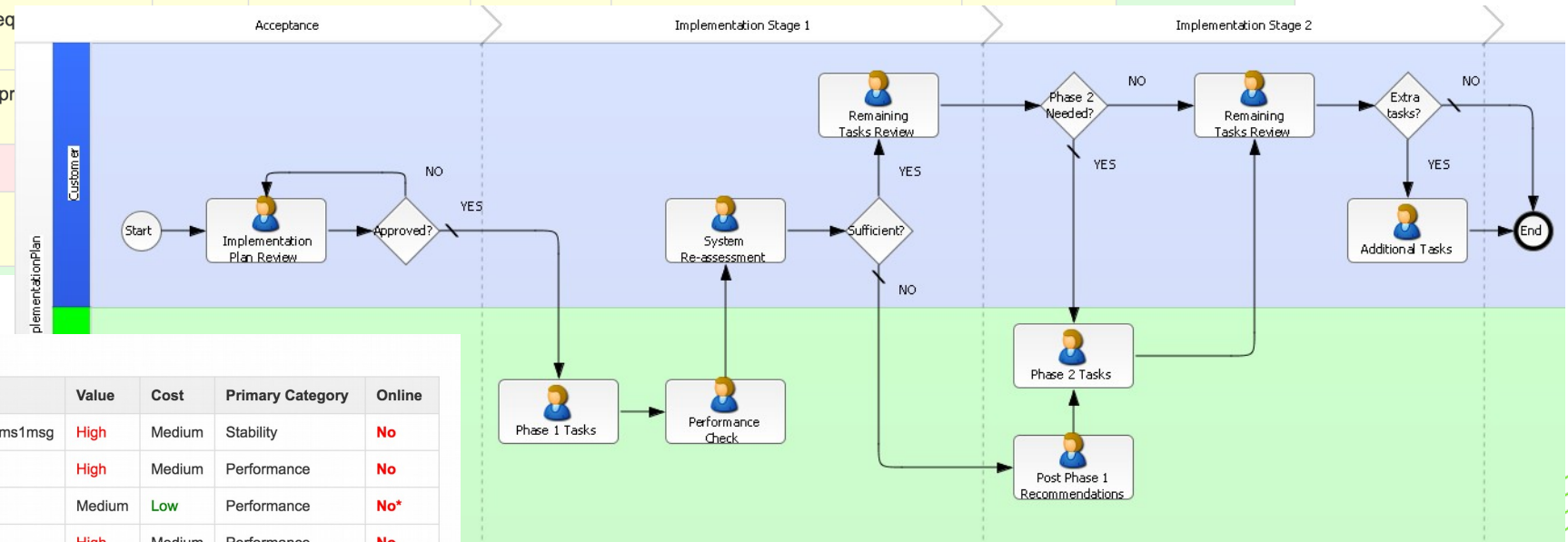
Summary of Recommended Changes

Number	Description	Value	Cost
1	Consider installing OE10.2B08 Service Pack	High - fixes and improvements	Medium - downtime required
2	Consider finding a better/faster disk storage solution	High - performance	High - depends on the solution
3	Enable large files support for all databases that have this feature turned off	Medium - better stability	Medium - short downtime required
4	Increase BI (AI) block size to 16 KB for vpsun5_vpuser and vpsun5_to_hire databases	High - better performance	Medium - short downtime required
5	Perform extent maintenance as shown in Figure 4	High - better stability, performance	Medium/High - can be done online, users might be affected
6	Truncate database log file and create a process to do it periodically	Medium - improved troubleshooting	Medium - can be done online, script creation
7	Investigate errors in the logs	Medium - better stability	Low - investigation
8	Increase buffer pool for databases as described in Figure 11	High - better performance	Low - startup parameter change
9	Eliminate record scatter in all databases as listed in Figure 18	High - better performance	High - dump and load required
10	Adjust -tablerangesize and -indexrangesize parameters as described in tablerange 1	Low - improved troubleshooting	Low - startup parameter change
11	Compact indexes with low utilisation for databases listed in Figure 20	High - better performance	Medium - can be done online but users might be affected

DB Health Checks – Implementation Plan

Classification of Recommended Changes

Number	Description	Value	Justification	Cost	Notes	Primary Category	Secondary Category
1	Consider installing OE10.2B08	High	better stability	Medium	SP - no need to recompile/convert/d&l	Stability	Maintenance
2	Change the block size of all databases to 8 KB	High	better performance	High	dump and load required	Performance	Performance
3	Enable large files support for all databases and LKE/64seq and gams1msg						
4	Implement After Imaging for all databases and start AIW pr						
5	Change BI (AI) block size to 16 KB						
6	Perform extent maintenance as shown in Figure 4						



Phase 1 Task List

Number	Description	Value	Cost	Primary Category	Online
✓ 3	Enable large files support for all databases and LKE/64seq for gams1 and gams1msg	High	Medium	Stability	No
✓ 5	Change BI block size to 16 KB	High	Medium	Performance	No
✓ 9	Increase buffer pool for databases as described in Figure 12	Medium	Low	Performance	No*
✓ 12	Increase BI cluster size as summarized in Figure 29	High	Medium	Performance	No
✓ 13	Increase -spin parameter for all databases permanently to 50000	Medium	Low	Performance	Yes
✓ 14	Add the -omsize parameter to increase the OM Cache for each database	High	Low	Performance	No*
✓ 15	Add the -lruskips parameter to each database and set it permanently to 500	High	Low	Performance	Yes
✓ 16	Adjust brokers' configuration as listed in Figure 37 and Figure 38	Medium	Low	Stability	No*
✓ 17	Change DEP settings	Medium	Low	Stability	Yes

*) These changes can be made when databases are online. However, they will be effective only after restart.



