WNDRVR

BRANSON L20 Database Design
Test Plan and Test Result

CONFIDENTIA

DOCUMENT NO.	**TP&TR**
VERSION DATE	**06 SEP 2022**

Test Plan and Report
Document No. TP&TR
Version 0.02
06 Sep 2022
Prepared For *****
Project Number BRANSON
Project Name BRANSON L20 Database Design

Wind River Systems, Inc.
500 Wind River Way
San Diego, CA 94501
510-749-2288 phone
510-749-2006 fax
www.windriver.com

REVISION HISTORY			
Date	**Version**	**By**	**Description of Change**
22 Aug, 2002	0.01	Kunming Yang	Draft
06 Sep, 2002	0.02	Kunming Yang	Remove code detail

Contents

1 Introduction

1.1 Purpose and Scope

This document describes how to test the database storage speed of the BRANSON L20 Database Design project.

1.2 Readership

The reader is assumed to be familiar with the Wind River product VxWorks7 2107.

1.3 Project Background

Customer requested Wind River to provide a database for Branson L20 Platform, supporting the VxWorks7 2107 Operating System.

1.4 References

2 Test Enviornment

2.1 Pre request

Software：

Ref	Description	Formate	Author	Version
S.1)	Windows 10	DVD	Microsoft	21H1
S.2)	VxWorks7	DVD	Wind River	2107
S.3)	BSP	Source code	Wind River	

Hardware:

Ref	Description	Supplier	Part No.
H.1)	AM5708	TI	
H.2)	Ethernet CAT5e cable	Any	
H.3)	Windows PC with a 100/1000 Mbit/s network card	Any	

3 Test Strategy

3.1 Preparation

All codes are running in RTP mode, so the BSP should support timestamp system call for high-precision timing.

The database should include 3 tables at least.

The tested table should include 1,000,000 records at least.

Other table should include 5000 records at least.

The storage operation is called in RTP L20.

Another RTP is used to send the storage commands.

3.2 Test

Ref	Procedure	Expected Results
T.1	undefine PERFORMANCE_MEASURE in the beginning of DataTask.cpp	None
	Build and run RTP L20	RTP L20 is running without database error
	Run test RTP to insert 5000 records for table WeldResult. -> rtpSp "test.vxe 2 a 5000"	The step should take 3 minutes
	Run test RTP to insert 5000 records for table WeldResultSignature. -> rtpSp "test.vxe 3 c" -> rtpSp "test.vxe 3 x 5000"	The step should take 3 minutes
	Run test RTP to insert more records for table WeldResult, like -> rtpSp "test.vxe 2 a 10000"	The step should take **several** hours
T.2	define PERFORMANCE_MEASURE in the beginning of DataTask.cpp	None
	Reset target	None
	Build and run RTP L20	RTP L20 is running without database error
T.3	Run test RTP to insert 10 records for table WeldResult. -> rtpSp "test.vxe 2 a 10"	The console shows the result, like this: -> single StoreWeldResult took 472 microseconds …
	Select the maximum and minimum values	max: xxx microseconds min: xxx microseconds

Appendix A：Test Results Record

A.1. Test Result

Ref.	result
T.1.	single StoreWeldResult took 160 microseconds
T.2.	single StoreWeldResult took 472 microseconds
T.3.	single StoreWeldResult took 168 microseconds
T.4.	single StoreWeldResult took 600 microseconds
T.5.	single StoreWeldResult took 81 microseconds
T.6.	single StoreWeldResult took 695 microseconds
T.7.	single StoreWeldResult took 494 microseconds
T.8.	single StoreWeldResult took 5 microseconds
T.9.	single StoreWeldResult took 94 microseconds
T.10.	single StoreWeldResult took 517 microseconds

max: 695 microseconds

min: 5 microseconds