Migration of IBM WebSphere Message Queue version 5.3 To 7.0
On
REAL TIME GROSS SETTLEMENT SYSTEM (RTGS)

IBM.

Introduction of RTGS System

The acronym "RTGS" stands for Real Time Gross Settlement. RTGS system is a funds transfer mechanism where transfer of money takes place from one bank to another on a "real time" and on "gross" basis. This is the fastest possible money transfer system through the banking channel. Settlement in "real time" means payment transaction is not subjected to any waiting period. The transactions are settled as soon as they are processed. "Gross settlement" means the transaction is settled on one to one basis without bunching with any other transaction. Considering that money transfer takes place in the books of the Reserve Bank of India, the payment is taken as final and irrevocable.

How RTGS is different from Electronic Fund Transfer System (EFT) or National Electronics Funds Transfer System (NEFT)

EFT and NEFT are electronic fund transfer modes that operate on a deferred net settlement (DNS) basis which settles transactions in batches. In DNS, the settlement takes place at a particular point of time. All transactions are held up till that time. For example, NEFT settlement takes place 6 times a day during the week days (9.30 am, 10.30 am, 12.00 noon. 1.00 pm, 3.00 pm and 4.00 pm) and 3 times during Saturdays (9.30 am, 10.30 am and 12.00 noon). Any transaction initiated after a designated settlement time would have to wait till the next designated settlement time. Contrary to this, in RTGS, transactions are processed continuously throughout the RTGS business hours.

How many bank branches in India provide RTGS service

No, all the bank branches in India are not RTGS enabled. As on January 31, 2007 more than **26,000 bank branches are RTGS enabled**. Considering that more than 26,000 branches at more than 3,000 cities/ towns and taluka places are covered under the RTGS system the list of such branches is available on RBI website - www.rbi.org.in/Scripts/Bs_viewRTGS.aspx

How much volume and value of transactions are routed through RTGS a day

RTGS handles about 14000 transactions a day for an approximate value of Rs.1,50,000 crore.

RBI had issued a notification dated 23rd November 2009 and advised all the RTGS enabled Banks to upgrade their RTGS system. As quoted below, and url of the RBI guide lines.

"As you are aware that RTGS system is presently running on Windows 2000 advanced server with Oracle version 9i and IBM Websphere MQ series 5.3. It has been decided to upgrade RTGS system to the latest available software versions i.e. Microsoft Windows 2008 Enterprise Edition, Oracle 11g and IBM Websphere MQ series 7.0. "

RBI guide lines - http://www.rbi.org.in/scripts/NotificationUser.aspx?Id=5378&Mode=0#E

RTGS Migration to Microsoft Windows 2008 Environment & System Requirement

1. PI Server:

Item	Specifications
Hardware:	The size of the Server Machine to be decided by respective participants based on their transaction volumes and other applications running on the same machine etc. It is suggested to install 2 no. of Standalone Servers at Primary Site (1 Primary Server+ 1 Back up server) with Oracle data guard enabled for online replication of data . **Note: Cluster is NOT required**
Processor :	Latest available Dual Core, 2 Processors
Memory	16 GB RAM
Hard Disk	2* 250 GB
PCI Express Slots	One PCI –E (Express) Slot for installing HSM card
DVD Rom Drive	DVD ROM
Hard Disk Partitions	2 equal partitions
Name of the partitions	C: - All program Files and System Files D: - Oracle , PI Server Software
Anti Virus	Anti Virus with latest definitions being regularly updated
Operating System (Windows)	Microsoft Windows 2008 Server Enterprise Edition , 64 bit with Service Pack 1
Message Middleware (IBM MQ)	IBM Websphere MQ 7.0, 64 bit with Fix Pack 1
Database (Oracle)	Oracle Enterprise Edition version 11.1.0.6.0 (Oracle Server 64 bit with 32 bit client)
JDK	JDK version 1.5
HSM Card	DETAILS WILL BE COMMUNICATED SHORTLY

2. RTGS-PI Client:

| Item	Specifications
Hardware:	The size of the Client Machine to be decided by respective participants based on their transaction volumes and other applications running on the same machine etc.
Processor Speed:	Latest available Core 2 Duo Processor
Memory RAM	4 GB RAM
Hard Disk	160GB / 250 GB
DVD Rom Drive	DVD ROM
Hard Disk Partitions	2 equal partitions
Name of the partitions	C: - All program Files and System Files D: - Oracle , PI Client Software
Anti Virus	Anti Virus with latest definitions being regularly updated
Operating System(Windows)	Microsoft Windows Vista Business Edition , 32 Bit , Version 6 with Service Pack 1
Database (Oracle)	11.1.0.6.0 Oracle Client, 32 bit
Microsoft Office	Microsoft Office Professional 2003 with Service Pack 3
Smart Card / I.Key	Safenet 's SCR 335 OR Safenet's 2032 I.key

RTGS proposed migration architecture diagram

RTGS proposed migration architecture diagram as per the RBI notification/guide lines (WMQ 7.0.1 queue manager clustering without Microsoft Clustering)
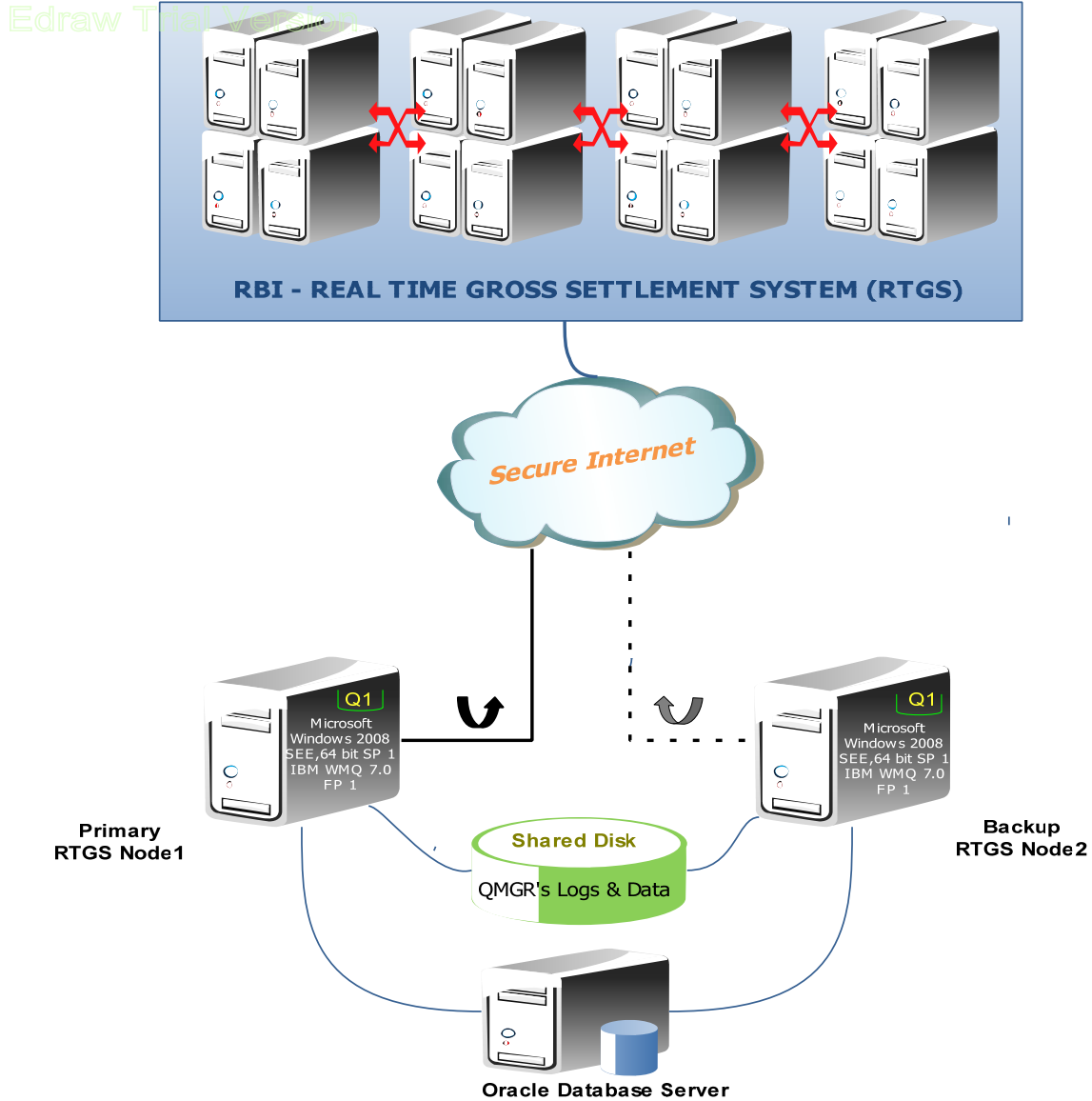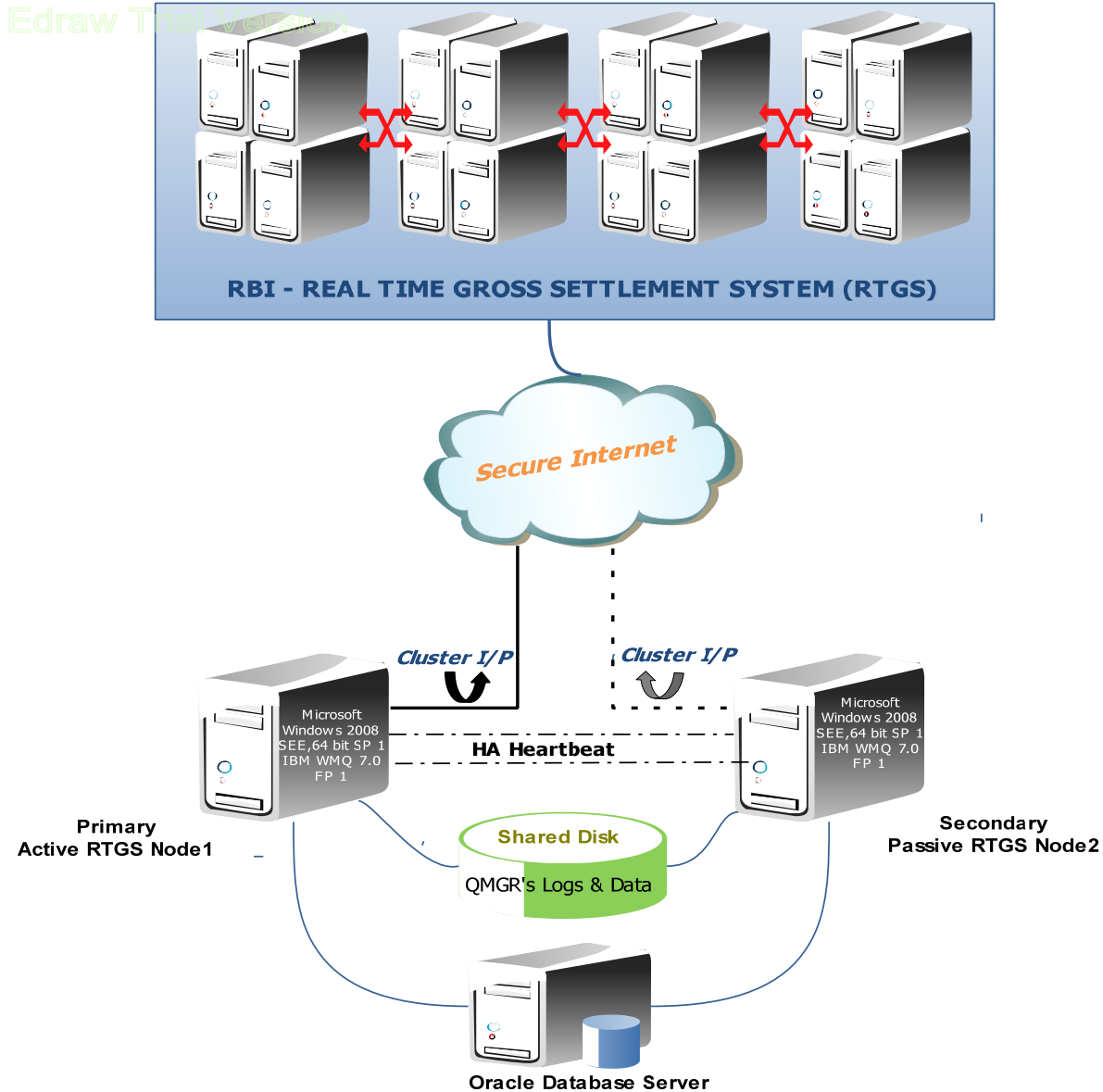

- IBM WMQ 7.0 installation would be done on both the Nodes.
- WMQ queue manager creation would be done on a single node with the WMQ queue manager data and logs available on shared/quorum disk.
- Failover of Primary to Backup and Backup to Primary would be done manually.
- Manual task required and down time would be more.

RTGS proposed migration architecture diagram (WMQ 7.0.1 queue manager clustering with Microsoft Clustering)

- IBM WMQ 7.0 installation would be done on a Primary node.
- WMQ queue manager creation would be done on a Primary node and then the queue manager resource would be moved onto shared/quorum disk.
- Failover of Primary to Secondary and Secondary to Primary would be done automatically by the Microsoft cluster service as soon as either of the node goes down.
- No manual task required and down time would be less.