

# Retail Enterprise Management Service Technical Specifications

| HARDWARE REQUIREMENTS  |                         |  |
|--|-------------------------|--|
| <b>Windows OS Hardware Configuration</b><br><br>For monitoring up to 10,000 agents e.g. 1,000 stores each with one Master Agent (MA) and nine General Agents (GA) a virtual machine with:  | Processor               | Four virtual cores   |
|  | Memory                  | 32 GB  |
|  | Network Interface Cards | - One NIC for accessing and managing the REMS server<br>- One NIC for Agent to REMS server traffic |
|  | Hard Disk Size          | 500 GB   |
| <b>Windows OS Hardware Configuration</b><br><br>For monitoring up to 150,000 agents e.g. 7,500 stores each with one Master Agent and nineteen General Agents, with good performance, a virtual machine with:   | Processor               | Eight virtual cores  |
|  | Memory                  | 32 GB  |
|  | Network Interface Cards | - One NIC for accessing and managing the REMS server<br>- One NIC for Agent to REMS server traffic |
|  | Hard Disk Size          | 500 GB   |
| <b>Linux OS Hardware Configuration</b><br><br>REMS is supported on Linux OS. The REMS Docker Image is available from the Toshiba website. It is recommended to use Docker Container Versions 17.x.x or newer (REMS tested on Docker Container Version 18.09) and the Kernel Version 4.15 or newer. | Processor               | 8-Core, 3.50GHz or greater (example: Intel(R) Xeon(R) CPU E5-2670)                                 |
|  | Memory                  | 32 GB  |
|  | Network Speed           | 1 GB   |
|  | Hard Disk Size          | 500 GB   |

**Note:** REMS is a very scalable solution - the server specification is dependent on volume of agents connected.

| SOFTWARE REQUIREMENTS   |   |
|---|---|
| Java  | Install the appropriate Java Runtime Environment (JRE) for your platform on the system, and set the JAVA_HOME environment variable to run REMS.   |
| The JRE required to run REMS should meet the following criteria | - JRE Version 8<br>- JRE 64 bit   |
| Operating System  | - Microsoft Windows Server 2016 Standard (64-bit) operating system<br>- Docker on Linux Operating System  |
| Docker Container Versions 17.xx or newer                        | REMS is supported on Linux OS. It is recommended to use Docker Container Versions 17.x.x or newer (REMS has been tested on Docker Container Version 18.09) and the Kernel Version 4.15 or newer. REMS Docker Image is available from the <a href="#">Toshiba support website here</a> |

| ADDITIONAL REQUIREMENTS      |   |
|------------------------------|---|
| Database Requirements (REMS) | REMS requires a database in order to install and run the application. The REMS specific data will be stored in the database<br><br>REMS supports PostgreSQL 12.1 database |
| Network Requirements (REMS)  | If a firewall is enabled, the following ports must be opened:<br>- 443 for HTTPS connection<br>- 10521 for Phonehome default port   |

| NETWORK REQUIREMENTS             |   |
|----------------------------------|---|
| Network Ports used by the RMA GA | - 10151 (TCP) - Incoming - RMA MA to RMA GA (RMI)<br>- 10152 (TCP) - Incoming - RMA MA to RMA GA (SOXS)<br>- 10190 (TCP) - Incoming - RMA file transfer port<br>- 31200 (UDP) - Outgoing - Discovery messages for MA and GA   |
| Network Ports used by the RMA MA | - 10149 (TCP) - Incoming - REMS to RMA MA (SOXS)<br>- 10151 (TCP) - Outgoing - RMA MA to RMA GA (RMI)<br>- 10152 (TCP) - Outgoing - RMA MA to RMA GA (SOXS)<br>- 10190 (TCP) - Incoming/Outgoing - RMA file transfer port<br>- 10521 (TCP) - Outgoing - RMA MA to Application/REMS<br>- 31200 (UDP) - Incoming - Discovery messages for MA and GA |

## SUPPORTED OPERATING SYSTEM

|                                 |   |
|---------------------------------|---|
| Windows Agent Operating Systems | <ul style="list-style-type: none"><li>- Microsoft Windows Server 2012 R2 (64 bit) Standard</li><li>- Microsoft Windows Server 2016 Standard (64 bit)</li><li>- Microsoft Windows Server 2019</li><li>- Microsoft Windows 8.1</li><li>- Microsoft Windows 10 (Enterprise LTSB 2015 (64 bit), IoT Enterprise LTSB 2016 (64 bit), IoT Enterprise LTSC 2019, 2019 SAC)</li><li>- Microsoft Windows Embedded POSReady 7 only supported when utilized with RPQ 8Q4032</li></ul> |
| Linux Agent Operating Systems   | <ul style="list-style-type: none"><li>- SUSE Linux Enterprise Desktop (SLED) 15 SP3</li><li>- SUSE Linux Enterprise Server (SLES) 12 SP5, 15 SP3</li><li>- SUSE Linux Enterprise Point Of Service (SLEPOS), 12 SP5</li></ul>  |
| Android Agent Operating Systems | <ul style="list-style-type: none"><li>- Version Version 8, 8.1</li></ul>  |

## REMS EXPOSED REST APIs

|   |   |
|---|---|
| <p>Toshiba Retail Enterprise Management Service (REMS) at the enterprise level provides REST APIs, and systems management services for centralized management of retail hardware and software environments at the store level.</p> <p>The capabilities and services provided by REMS are:</p> | <ul style="list-style-type: none"><li>- Store Management Service</li><li>- Resource Service</li><li>- Inventory Service</li><li>- Power Management Service</li><li>- Event Management Service</li><li>- Resource Invocation Service</li><li>- Software Distribution Service</li><li>- Grouping for Software Distribution Service</li><li>- Scheduling for Software Distribution Service</li><li>- Dynamic Update of RMA Properties</li><li>- Purging Log Captures from Android Devices</li><li>- Data Capture Service</li></ul> |
|---|---|

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