**IT Infrastructure, Operational Services and Procedures**

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1. Version Control

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Reason for Change** | | | |
| Version | 2.1 |  | | |
| Signature: |  | | | |
|  | | Date |  |
| Version | 2.2 |  | | |
| Signature: |  | | | |
|  | | Date |  |
| Version | 2.3 |  | | |
| Signature: |  | | | |
|  | | Date |  |

1. Introduction

Engineparts Turbochargers (EPT) distributes various motor vehicle components to the Southern African automotive aftermarket. Especially engine components and turbocharger components.

The people at Engineparts make use of ePART, an in-house developed ERP system, which has recently been integrated with the MOTUS’s Sage X3 financial system. Both are running on Microsoft Windows and SQL 2012 servers.

Optimiza is used outside the main systems to plan purchase orders for stock replenishment. Optimiza does not integrate directly with the ePART system, but uploads and downloads are handled with Windows’ built-in task scheduling system, which then runs the appropriate applications, batch files and scripts. Finalized purchase orders can then be imported into ePART as a CSV file.

For e-commerce, ePART also provides applications that connect through the internet with web-apps running on Apache Tomcat servers.

The Sage X3 financial system covers Debtors, Creditors, General Ledger, Cashbook and Fixed Assets and uses Crystal Report Writer. Sage Intelligence (SI) does financial analysis reporting.

EPT’s network infrastructure is managed in-house by the IT Operations Department (ITOPS). They are responsible for exchange server hosting, DR, backups, network, hardware, server rooms and associated software procurement.

1. Objectives

The purpose of this document is to provide the business with a high-level overview of the current EPT Information Technology Solutions used, and its support system.

There are two distinctive support and maintenance infrastructures in place within the business:

* **Outsourced Operational Services (ITOPS)**

EPT’s network infrastructure management is outsourced to MOTUS, IT Operation Department (ITOPS). They are responsible for exchange server hosting, DR, backups, network, hardware, server rooms and associated software procurement.

* **Application Services (Inhouse and Outsourced)**

AEP uses various software application to deliver a full 365 solution to business and clients. Current Applications:

* **ePART:** In-house developed ERP system. Currently used for Supplier Catalogues, Sales Catalogue, Stock Procurement, Telephonic Sales, Counter Point-of-Sales, Buyout Sales, e-Commerce Sales, Stock Receiving Management, Stock Despatch Management, Returns Authorization, Claims Process, Stock Return Pick-ups, Warehouse Management. (MS SQL Database and Apache Tomcat web server)
* **Optimiza:** Supply and demand-based inventory planning software (MS SQL Database)
* **Sage X3 ERP:** Financial Solution (Non-Stock Purchasing, Creditors, Debtors, Fixed Assets, Cashbook, General Ledger (MS SQL Database)
* **Sage Intelligence Financial Reporting:** Sage X3 Financial Reporting and Financial Analysis Reporting Tool (MS SQL database)
* **IDU:** Budget Reporting Tool used in conjunction with Sage X3 (MS SQL database) – Managed by authorized Financial personnel.
* **Crystal Report Writer**: Operational Reports and Forms
* **Capisol**: Used in conjunction with Sage X3 as a document delivery system. E-mails debtors’ statements as well as creditors’ remittance advice.

## Servers

The following are the Servers used at AEP as well as a brief description of the server

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Server Description | IP Address | Name | Location |
| 1. | Database Server  **CPU** 18 E5-2403@1.80Ghz  **RAM** 40GB / **Disk** 136GB  OS Server 2012 STANDARD | 172.18.161.55 | EPTBHYP03 | Bloemfontein |
| 2. | **Tomcat Server/POD Scanning**  **CPU** E5-2420@2.00gHZ  **RAM** 16GB  **OS server 2012 standard** | 172.18.159.29 | EPTBK01 | Bloemfontein |
| 3. | Tomcat Server/old backup server  **CPU** E5-2640@2.50gHZ  **RAM** 16GB  **OS server 2012 standard** | 172.18.161.252 | EPTBK02 | Bloemfontein |
| 4. | Tomcat Server  **CPU** E5-2603@1.80Ghz  **RAM** 16GB  **OS server 2012 standard** | 172.18.161.239 | EPB09 | Bloemfontein |
| 5. | Telephone system  **CPU** 18 E-5504@2.0Ghz  **RAM** 4GB  **OS server 2008 standard** | 172.18.161.232 | EPTSS01 | Bloemfontein |
| 6. | Old Database Server  **CPU** E5630@2.53Ghz  **RAM** 24GB  **OS server 2003 standard** | 172.18.161.233 | APDPDM03 | Bloemfontein |
| 7. | Windows System Update Server  **CPU** E5405@2.00Ghz  **RAM** 2GB  **OS server 2012 standard** | 172.18.161.241 | EPB09A | Bloemfontein |
| 8. | Antivirus Application Server\*  **CPU E5-24031.80Ghz**  **RAM 40GB**  **OS server 2012 standard** | 172.18.162.75 | EPTBHYP01 | JHB(Virtual) |
| 9. | Live Database Server  **CPU** E5-24031.80Ghz  **RAM** 36GB  **OS server 2012 standard** | 172.18.162.244 | APDPDM04 | Bloemfontein |
|  |  |  |  |  |
|  |  |  |  |  |

\* These servers are shared with other group company on the Autoparts division domain

## Server Room Security/Enviro-rack/Aircon (ITOPS responsibility) Teko

The AEP Goodwood Server room is access controlled and within the server room is an Enviro-rack which has the following:

* Finger print reader for access.
* Camera for security.
* Smoke detectors.
* Firebomb in case of fire.
* Aircon build in to keep the cabinet at the right temp.

The Enviro-rack is a self-contained unit with all the security integrated into it. There are additional aircon system in the server rooms itself for backup purposes

The following branches have Enviro-racks on location:

* Johannesburg
* Pretoria
* Durban
* Cape town

## Generators, UPS and Cabling (ITOPS responsibility)

### ENGINEPARTS Datacentre Generators and ups

UPS is installed to supply power to the server room in the event of a power failure maintaining a constant flow of power to business critical equipment i.e. servers . UPS to provide emergency power for up to 4 hours on full load and this ensures that server can be powered down safely until the power can be restored.

|  |  |
| --- | --- |
| **UPS DETAILS** |  |
| Specification | 20KVA UPS |
| Service / Maintenance | every 6-12 months |

There are no generators installed at Engineparts.

### Cabling and Electrics

All Engineparts’ electrical requirements and cabling is the responsibility of their respective branches.

### Bespoke Hardware Solutions

The ePART system uses special-purpose hardware for various processes, in particular: Receiving, Picking and Despatch. This includes hand-held bar code scanners, electronic scales and bespoke devices that make up part of the despatch scanning’s wiring harness. For more information, see the ePART documentation.

## Network (ITOPS responsibility)

Alerts network forms part of the MOTUS Corporation network, which is a MPLS network on the Vodacom and Internet Solutions (IS). Each branch has primary connection which is Microwave medium, and a failover link on one of the following medium ADSL and route through to the servers at HO and the Datacentres located in Teraco and Vodacom MTB.

### Quality Assurance

Currently there are QOS (quality of service) configured on the AEP WAN network, with the following split:

* **Platinum**: (Telnet traffic) any telnet traffic on this link always gets priority. Currently Automan get this priority.
* **Gold**: All connections to the APD hosting facility destined to the Sage environment gets a higher priority than anything other traffic excluding telnet
* **Silver**: All other traffic (such as email, internet or file transfers) falls in the lowest priority.

The failover links becomes active should the primary link fail. Failover occurs 60 seconds after the primary link fails.

### Network Redundancy (failover)

If the primary link fails, the failover link connects automatically after 1 minute of a failure unless it’s due to a power failure. Once the primary link is restored it automatically falls back to the primary link.

All the devices and lines are controlled by a Network Vendor and any error reporting is done through them.

### aCCESS CONTROL AND AUDITING Teko and (Jaco’s part is done.)

User accesses (create, amend, delete) needs to be requested by filling in the IT User Request form by the relevant parties that specifies the job function and access required. This form will then be vetted and approved by the IT Systems head as well as the CFO. The same process will be followed when an existing user’s access needs to be amended.

The following environments are security controlled.

1. Windows Server, Desktop Computer and Network Access

* Is the responsible of ITOPS and is controlled from the user AD username and password. Refer to security policies document (ITOPS)

1. System Application Security

* Access to all application follows Active Directory policies. Once user is logged in and requires the use of a specific application the access is application driven. This applies to the applications listed below and security within the application is the responsibility of the IT team:
  + Sage X3
  + ePART
* Inside ePART there are many applications that connect to an MSSQL database.
  + EPMenu and general database access is granted by creating a “User” object in ePART’s “Maintain Users” application.
  + Access to specific applications is granted by placing it on an ePART user’s menu, using the same application.
  + If a part of an application needs to be enabled or disabled for a specific user, this is done by adding or removing “Permission” objects to or from a user.
  + Users also have to be associated with one or more branches and locations. Their default location determines which “Company” they are a part of. For salespeople, this also determines which branch they count for in the “Logical Sales”.
  + On-line customers also require a user, but in their case the user code MUST be the same as their account code, and they must also have the DR\_ONLINE, CAT\_HIDE\_ASM, CAT\_HIDE\_PARTNR, and CAT\_HIDE\_SUBTREE permissions.
  + Most ePART applications cannot be used from outside the local network, because the database server is not exposed to the outside. The applications that can, though, work through the SQL Proxy installed on the Tomcat servers accessible through “online.epart.co.za”

1. Administrator and Systems Passwords

* AD and EPT domain-wide administrator permissions are controlled by ITOPS and administrator rights are only given to network administrators as part of their job function.
* Database administrators are controlled by IT. Systems and administrator rights are only given to application and database administrators as part of their job function. Third party vendors will only be given database access when required.
* System application 3rd party access is action when required and a call logged. Once a process has been completed access to 3rd party is revoked.

### Remote Access Users/Private access

Apart from the IT Support Technicians, who are allocated dial-in permissions to the EPT network, certain EPT users have been assigned remote access permissions as part of their user profiles. This functionality needs to be requested as part of the user profile maintenance/creation (as per the existing form, signed and filed). This access will provide users connectivity to email, internet, Sage X3 and ePARTservices provided on the network, and is used primarily for management.

Remote connectivity is achieved via:

* Secure connect cards / IS Connect: this integrated into active directory. Once authenticated with the card’s randomly generated token number and using active directory authentication users will have access to the full network and allowed applications.

## Services (ITOPS responsibility) Teko

### Mail\Mail Retention\Spam

ITOPS hosts Alert’s Hybrid mail server at the Datacentre (APDEXCH) and in cloud with MS Office 365

IT governance best practise and compliancy recommends that a company email communication must be retained for up to seven years; Motus retains emails for 10 years using MIMECAST. Mimecast product has been security certified and accredited under South Africa Law. (The settings identified below are the responsibility of ITOPS and must be changed accordingly)

* Sending restriction is set at 10mb as a default.
* Receiving restriction is set at 10mb.
* Mailbox size is set to 50GB using either a E1 or E3 Office 365 License.
* Relaying is using a server to accept and then resend mail to recipients on another server. APD exchange server has restricted all relaying except for a specified list of servers such as the ALERT-SQL server and the APD DNS server.
* Email can be accessed in a number of ways such as:

1. Webmail – using the address https://portal.office.com/ in internet explorer and can be accessed via any internet terminal.
2. Exchange mailbox on the local machines which are part of the domain and access through the network.
3. Remote users can also use their laptops which, when connected to the internet through any media, can connect their local mailboxes to the exchange.

All authentications are done via active directory which uses basic windows authentication, and password policies are set by group policy. (Group Policy is the responsibility of ITOPS

### Internet Security and WEB Site (Proxy\Firewall APDRX01).

Internet is restricted and monitored via a WebTitan Server situated in the Jet Park Datacentre. This server has policies which act with Active Directory to restrict users at certain levels as below.

There are 3 groups in Active Directory which restricts users to certain levels of internet namely:

* Level 1 – No Access
* This blocks everything except banking and government sites.
* Level 2 – Normal Internet Access
* Internet access excluding non-productive \ unethical sites such as media streaming, illegal content browsing and downloading, pornography, social networking etc.
* Level 3 - Full Access Unrestricted - This group has complete use of internet and is restricted to Executive and management use only.

### Microsoft UPDATES (WSUS APDWSU01)

Windows System Update Service (WSUS) (APDWSUS01) is hosted at APD. This Server synchronizes to the Microsoft server and downloads all updates. Automatic updates checks are scheduled via group policy (Group Policy is the responsibility of ITOPS) on workstations, and it is controlled by the WSUS server. The WSUS server serves as a host to distribute updates from a single point.

In the Group Policy, the WSUS server it is specified for the workstations. All workstations \ laptops on the autopartsdiv domain will then have this policy applied. They will connect to the WSUS server to download these updates, and installation is normally scheduled for after hours.

### File Storage (File Server AEPFS01) (TEKO)

Alert Head Office and Cape Town branch has an onsite File Server (AEPFS01) where all local user data including documents are stored. This server also acts as an onsite domain controller and a backup server. The File Server is essentially a mirror backup server and replicates to the APD Jet Park site. The Domain controller role was installed on this server to reduce WAN traffic and increase performance, as all authentications between individual users occur locally and not over the WAN to the Primary domain controllers at the APD Jet Park site.

Remote branches do not have on-site file servers, and all user data is stored on local workstations. Only users with Attix5 installed will have their data backed up automatically. It is the user’s responsibility to ensure that all data is backed manually or via Attix5

### Anti-virus (AEPESET01)

All computers on the APD network run ESET Nod32 Business Edition, and are managed from a central server at the datacentre (AEPESET01). Updates are pushed from the management server as soon as the new updates are available from ESET. All PCs connected on the network have ESET installed and are updated from the server. (Responsibility of ITOPS)

The onus is on the user to ensure that the virus definitions are updated regularly (either by logging into the LAN (Local Area Network) from a fixed network point e.g. connecting the computer at the office, or by updating the antivirus definitions across the internet).

### Switchboards and Telkom Phone lines (TEKO)

Switchboards and Telkom phone lines are the responsibility of the Branch manager. ITOPS does not support this service. IT helps to facilitate purchases and report faults, but overall responsibility belongs to the branch.

### Help Desk (TEKO)

A helpdesk service is available and it is monitored and managed by the ITOPS. Branches appoint an IT Support Super User to log the relevant calls. Monthly reports are provided. For helpdesk procedures refer to User Support Procedures document.

## Technology Policy

All members of Alert staff subscribe to the Technology Usage and Electronic Communication Policy as set by AEP. These include email message disclaimers, internet accessible document containing Terms and Conditions of use, as well as a list of acceptable usage policies. HR is responsible for the content as well as the acceptance of policies by the users.

Refer to Z:\Policies and Procedures\APD Alert Engine Parts Technology Usage Policy.doc SHERWIN example

## Insurance Policy DEON?

ITOPS is responsible for providing the Financial Manager with a full list of equipment for insurance purposes. It is the responsibility of ITOPS to keep this list up to date.

## ApplicationS and Support

Application Support Procedures, Super Users and call logging procedures are detailed in the User Support Procedures document.

### ePART TEKO (Jaco’s part is done)

Engineparts' main computer application system runs on an IBM P715 Server, running IBM AIX version 6 (UNIX operating system) and INFORMIX Dynamic Server version 10.0 FC7 with Rapid Application Development version 7.32 software (Database engine).

ePART is developed and supported in-house only. Daily transactions are copied from ePART to X3 in the evening. All debtors’ and creditors’ account information is copied from X3 to ePART every few minutes. Data from ePART is also provided to Optimiza to calculate stock replenishment orders, which are then processed by EPT staff before being imported into ePART.

### Sage X3

Sage X3 Version 6.5 application runs the financial modules: Debtors, Creditors, General Ledger, Fixed Assets and Cashbook. The vendor for the Sage X3 application is T3T. Sage X3 runs on SQL Server 2012 R2 database. X3 application is loaded on an application server. A print server is remotely accessed via the Terminal Server. Patch 30 is the last implemented patch.

The report writer that Sage uses is **Crystal report**; there are 2 versions of Crystal currently loaded. Crystal Reports Version 2013 and Version 11 is loaded on the Application server. Crystal Version 10 is loaded on Terminal server. **Sage Intelligence (SI)** are the Financial Business Intelligent component and is loaded on the Application server.

### Optimiza

Optimiza is a procurement planning tool and is supported by Barloworld. ePART data is extracted daily and sent to the Optimiza System as pipe-separated values in text files, which are then uploaded into Optimiza. Optimiza is used to calculate stock replenishment requirements in the form of IBT’s, ICT’s and purchase orders, which are reviewed by EPT staff and then imported into ePART.

The Optimiza application software, support, maintenance, backup and DR is not maintained or supported by the EPT IT department. It is supported by Imperial’s procurement department (Samantha Dalton). EPT is responsible for the source data as well as for loading the Optimiza results, but not for the Optimiza application.

### Apache Tomcat Web Servers

Some parts of ePART run as separate web-apps on Apache Tomcat servers:

* Point-of-Sales LED Display and Customer Calling
  + Need info from GRAHAM
* Proof-of-Delivery Scanning and OMR
  + Need info from GRAHAM
* SQL Proxy
  + This web-app can run arbitrary SQL on the database server, using the login ‘sqlproxy’. It is used to allow the e-commerce applications to communicate with the server without connecting directly.
* EPLoader
  + This web-app allows EPMenu to check whether an application is up to date before running it, and it can provide the most recent version if needed.
* Catalogue Images
  + Some on-line accounts, and all salespeople, can look up pictures of parts in the catalogue lookup application. This web-app provides the images.

The access to our Apache servers is controlled and maintained by NCC, who also implemented a load-balancing system to provide high availability through redundancy. The servers are then accessed through the web address “online.epart.co.za”, which reroutes all requests to one of the three Tomcat servers: EPB09, EPTBK01 and EPTBK02

## Application Development and Test Environment

### ePART MSSQL development Server

When new SQL code is developed for ePART, it is continually tested and extended on a separate MSSQL server, so that bugs can be detected and fixed before deploying to the live server. This also allows development to agilely adapt to unexpected requirements. (Current development server: APDPDM02Dev, running Windows Server 2012 R2 and MSSQL 2012)

### ePART Application Development

The application development environment for ePART has changed a few times, so different applications need to be maintained in different environments:

* + - 1. **C++Builder VCL Applications**

The majority of ePART was developed with Borland C++ Builder 5, using VCL for the GUI as well as for database connectivity. As such, these applications are dependent on the Borland Database Engine (BDE), which is no longer supported and is starting to show its age.

Some of these applications also make use of the DevExpress data grid, the Seagate Crystal 8 VCL, or the Interval graphics file loading and display library.

The despatch scanning application makes use of the TComPort library for RS-232 communication.

* + - 1. **C++Builder and SQLProxy Applications**

Some ePART applications, notably the “Sales Order” and “Catalogue Lookup” applications, which are used by outside customers, do not use Borland’s data access components, but rather uses a bespoke library that allows it to communicate with an SQL Proxy on an Apache Tomcat server. This requires an HTTP request, and so the TSQLProxy library is dependent on Indy; an implementation of said protocol.

Since the database communication is in this case not handled by the application itself, the development environment has its own Tomcat server that connects to the development database server. Currently, this is installed on a developer’s machine.

* + - 1. **Java Applications**

Some of the Java applications were developed in the NetBeans IDE, but these can easily be imported into the Eclipse IDE, which was used for the other Java applications. Although many of the Java applications are no longer in use, the exceptions include some very important infrastructure:

* SQL Proxy
* EP Loader
* Catalogue Images
* EP Mail Queue
* Proof-of-Delivery Scanning and OMR
* Point-of-Sales LED Display and Customer Calling   
  + - 1. **C# Applications**

As the Borland C++ based applications have continued to age to the point where Windows compatibility can no longer be guaranteed, it has been decided to re-implement the basic framework in Microsoft’s C# language, using Microsoft Visual Studio.

This was started in October 2018.

## Application Schedule

### ePART-Automan interface

|  |  |  |
| --- | --- | --- |
| **No.** | **Time** | **Description** |
| 1 | 21:00 | Scheduled Task on EPTBFNDev001 runs application that generates EPT\_Stock.csv |
| 2 | 21:20 | Scheduled Task on EPTBFNDev001 runs batch file that copies EPT\_Stock.csv to [\\AEPSAG01\d$\SagentLive\InputData\EngineParts](file:///\\AEPSAG01\d$\SagentLive\InputData\EngineParts) |
| 3 | 21:20 | Results of copy are logged in [\\EPTBFNDev001\c$\Automan\EPTALERT\_output.txt](file:///\\EPTBFNDev001\c$\Automan\EPTALERT_output.txt) |

### ePART-optimiza Interface

|  |  |  |
| --- | --- | --- |
| **No.** | **Time** | **Description** |
| 1 | 20:00 | Scheduled Task on EPTBFNDev001 runs application that generates the Optimiza interface files. Backup files are put at: [\\EPTBFNDev001\c$\ISSS\backups](file:///\\EPTBFNDev001\c$\ISSS\backups)\*yyyy*\*mm*\*dd* |
| 2 | 21:00 | Scheduled Task on EPTBFNDev001 runs batch file that copies the current files to [\\APDEPS03\ept\_dump](file:///\\APDEPS03\ept_dump) |
| 3 | 21:00 | Results of copy are logged in [\\EPTBFNDev001\c$\ISSS\copy\_results.log](file:///\\EPTBFNDev001\c$\ISSS\copy_results.log) |
| 4 | 05:30-05:33 | Scheduled Task on EPTBFNDev001 runs a batch file that does all of the following:  Copy [\\APDEPS03\ept\_dump\dailydump.txt](file:///\\APDEPS03\ept_dump\dailydump.txt) to [\\EPTBFNDev001\c$\ParetoImport](file:///\\EPTBFNDev001\c$\ParetoImport)  Run the import application to load the data into the database.  Log all results to [\\EPTBFNDev001\c$\ParetoImport\EPTPareto\_output.txt](file:///\\EPTBFNDev001\c$\ParetoImport\EPTPareto_output.txt) |

### ePART-SageX3 Interface

|  |  |  |
| --- | --- | --- |
| **No.** | **Time** | **Description** |
| 1 | every minute | Copy creditors’ master data from the staging tables to live ePART tables. |
| 2 | every minute | Copy debtors’ master data from the staging tables to live ePART tables. |
| 3 | every 5 minutes | Copy the BPs’ master data from Sage X3 to the staging tables. |
| 4 | 20:00 | Consolidate the day’s transactions from ePART into the staging table. |
| 5 | 21:30 | Copy the day’s transactions from the staging table into Sage X3’s general ledger. |

### Frequently recurring tasks

|  |  |  |
| --- | --- | --- |
| **No.** | **Time** | **Description** |
| 1 | every 3 minutes | The epMailQueue Java application, running on APDPDM04, does the following:   * Generate PDFs of debtors’ statements using Jasper reports, if scheduled. * Generate PDFs of purchase orders using Jasper reports, if scheduled. * Generate PDFs for the weekly battery scrap pickup report, if scheduled. * E-mail PDFs. * E-mail EDI files. * E-mail incident log messages. * E-mail HTML invoices. * E-mail HTML credit notes. |
| 2 | every 10 minutes | Automatic sales order release.  The current rules:  Account is open.  Order is not a quote and not a back order.  Order is less than a week old.  Order is more than 30 minutes old and has 10 or more lines, or is more than 2½ hours old. |
| 3 | every 3 minutes | RFC collection orders release. (Local only) |

### Essential MSSQL Agent jobs

|  |  |  |
| --- | --- | --- |
| **No.** | **Time** | **Description** |
| 1 | 10:00, 17:00 | RFC collection orders release. |
|  | 22:00 | **Before midnight tasks:** |
| 2 | (Only Monday) | Update the AMS stats and log the result for the graphs. |
| 3 |  | Update stocking model. (e.g. supplier statistics) |
| 4 |  | Close buy outs outstanding for more than 30 days. |
| 5 |  | Summarise claims for the pricing workbench. |
| 6 |  | Update the lost sales since last binned statistics. |
| 7 |  | Update the AUC on items with zero stock. |
| 8 |  | Update the lost sales per 3 months statistic. |
| 9 |  | Reset overridden despatch departure times. |
| 10 |  | Check for items which should not be on hold, and fix where necessary. |
|  | 0:45 | **After midnight tasks:** |
| 11 |  | Recalculate shipped quantities on purchase orders and locations. |
| 12 |  | Recalculate shipped, receiving and transferred quantities on locations. |
| 13 |  | Recalculate GL account period closing balance summaries. |
| 14 |  | Recalculate shipped quantities on purchase orders and locations again. |
| 15 | (Twice Monthly) | Log stock value and quantity per bin. |
| 16 |  | Reallocate undespatched sales onto the next departing appropriate route. |
| 17 |  | Update summaries of monthly sales per item group. |
| 18 |  | Update summaries of monthly sales per customer. |
| 19 |  | Update summaries of monthly purchases per supplier. |
| 20 | (Monthly) | Update summaries of monthly sales per item. |

# DOcumEntation and Folders

## Documentation JACO (implement and update)

In general, IT supports three types of manuals which are User application manuals, IT configuration manuals and IT technical manuals. The location of the manuals is addressed under Folders.

1. User application manual is the user training manual. There is one manual per module
2. IT configuration manuals contains the **configuration** settings and setup for a specific IT subject.
   1. X3 IT Application Configuration (Includes security)
   2. DB Configuration
3. IT technical manual contains IT **Support** information for IT personal.
   1. X3 IT Application Support (Includes security)
   2. X3 Utilities Tasks Technical Support
   3. Integration

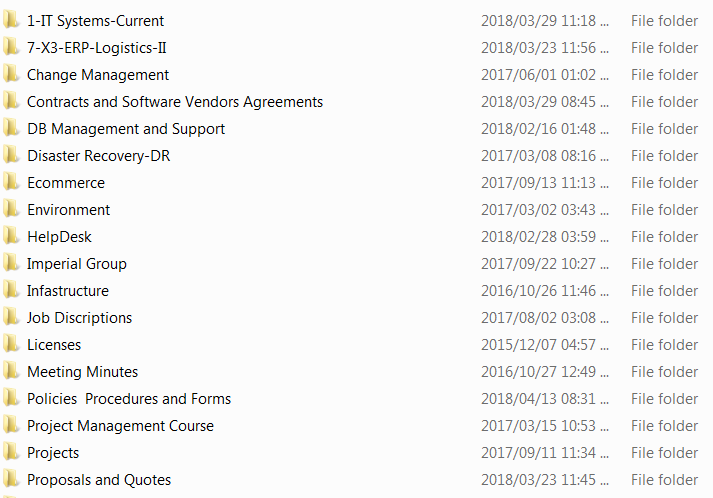
### Document Version control

All current manuals are available in the shared folder. If a document needs to be updated a copy of the current version is saved in the Archived folder. Once a document is being worked on, it will become a work in progress file. The filename will contain WIP with the version number e.g. Old file in archive is V2.0 with the new file named V2.1 WIP



## Folders JACO (implement and update)

The main folders are listed under the IT Admin folder. See below example:



# Backups TEKO

All Backups are the responsibility of ITOPS.

AEP is responsible for setting the required backup routines, however testing the backups and implementing recovery of application backups is a joint responsibility.

ITOPS will schedule backup testing and AEP IT has to complete its responsibilities as per plan and sign accordingly.

Refer to Appendix C: Backup Schedule List.

### Automan

Automan database is daily exported into the IBM hard disk (Path: *IBM”/u1/exports”*) followed by a transfer of the backup to the Linux (Path: *Linux”/u1/exports”*) Development server. A month end, back-up is made to tape and also copied into hard “/u1/dump/monthend” [Path: *AEPSQL02 (172.18.97.17) f:\Exports\Month End 1, Month End 2, Month End 3, Month End*].

### Sage X3

Sage X3 database and application folders are automatically backed up into disk on the server. Redstor copies the backup to the cloud-based Backup Storage device.

### Sagent

Sagent daily backups are automated in Path: *AEPSQL02 (172.18.97.17) f:\SQL\MSSQL\BACKUP\Alert\_DW, Alert\_Repository* hard drive but over written weekly. A Month end back for every month is kept on hard disk Path: *AEPSQL02 (172.18.97.17) f:\SQL\MSSQL\BACKUP\Month End 1, Month End 2, Month End 3, Month End*.

### Linux (Automan development environment)

A separate backup linux2 machine automatically backs up the entire development environment, database and all code.

# Disaster Plans / Failover Teko

All DR plans are the responsibility of ITOPS.

Testing DR plans is a joint responsibility however AEP IT is responsible for scheduling DR testing.

Refer to Appendix B Failover Testing and Backup Recovery Schedule.

# Agreements and Contracts teko

## Agreements

### Corporate Web Services

Website hosting of Engineparts website

### Networking & Computing Consultants

Eparts Firewall

### Page Automation

Kyocera printers, toners and servicing

### UPS Solutions

Servicing of UPS’s

### Printer Parts

Servicing of HP printers

### ERS Biometrics

Clocking system

## Licences Agreements **TEKO**

IT will not accept responsibility for any unlicensed software installed onto PC’s, and will not support and troubleshoot any problems caused by the installation of such software.

### IBM Licence

IBM Licence is for unlimited users

### Sage X3

* X3 users (149 Concurrent User Licenses)
* X3 Batch User (13 User Licenses)
* X3 Web Service (56 User Licenses)
* Fixed Asset (*1 User*)
* Sage Intelligence (11 Licenses: 2 Administrator, 5 Report Manager, 4 Report Viewer)

### Sagent

Alert has 20 Sagent licences.

## table of service providers / Contracts check met deon en candice

Below is a list of expenditures for maintenance contracts, subscription fees and licensing costs. The costs are based on the last invoice

|  |  |  |  |
| --- | --- | --- | --- |
| Description | Recurrence | | Amount Due |
| **AIX (Automan server) –****Axial***- On-site Operating System Support Contract* | Monthly | | **R 10,000** |
| **Sage-X3 Licenses** | Annually | | **R 591,931** |
| **SI** Sage South Africa | 31/08/2018 - 27/12/2018 | | **R5 314.44** |
| **IDU.** Management Accounts/Budget | Annually | | **R65 253.60** |
| **EOH Consulting -** *Database Administration* | Monthly | | **R1482.00** |
| **Steven Weiss** - *Informix support and maintenance* | Monthly | | R 14 000.00 |
| ***Sagent - Alicornio Africa*** | Annually. January | **R 127,415.52** | | |
| ***SagentAnalytical Calculator – Alicornio Africa*** | Annually. November | **R 9 450.00** | | |
| ***Sagent Support*** | Annually. February | **R 140,000** | | |

# 3rd party supplier service Support Procedures and turn around time

### Sage x3 fault logging

All support calls that cannot be solved in-house at Alert needs to be logged through T3T helpdesk, by one of the IT systems staff.

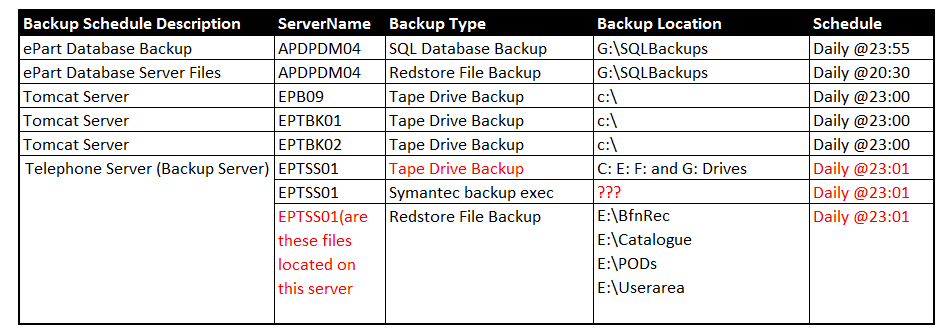
1. IT Department Supplier/Vendor Contacts Phone List

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **APPLICATION** | **COMPANY** | **PURPOSE** | **CONTACT** | **CONTACT NUMBER** |
| Printers | Printer Parts | General Support | Erica Le-Gassick | 051 444 6695 |
| Eparts | NCC | Firewall Online Customers | Chris Van Der Merwe | 051 447 8589 |
| Clocking System | ERS Biometrics | Employees Clocking system | Esupport | 010 593 0593 |
| Printers | Page Automation | Printers support | Anelisa Bukisa | 011 574 3000 |

1. Failover Testing and Backup Recovery Schedule

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Failover Testing and Backup Recovery Schedule** | | | | | | | |
| **Description** | **Server Name** | **Owner** | **Schedule** | **Date requested** | **Date Completed** | **Result/ Comment** | **Signature** |
| **ePart Database server** | **APDPDM04** | **EPT IT** | **Twice Yearly** |  |  |  |  |
| **Tomcat Server** | EPB09 | **EPT IT** | **Twice Yearly** |  |  |  |  |

Appendix C: Backup Schedule List Teko



# Signature approval

|  |  |
| --- | --- |
| **AEP Project Financial Officer** | **AEP Technical Manager** |
| **Mr Howard Carter** | **Ms AnaMaria Florentino** |
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| **Date Signature** | **Date Signature** |
|  |  |
|  |  |
| **AEP X3 ERP Administrator** | **AEP Data Analyst** |
| **Ms Christel Smith** | **Mr Sherwin Bezuidenhout** |
|  |  |
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| **Date Signature** | **Date Signature** |

|  |  |
| --- | --- |
| **Divisional IT Operations Manager** | **Technical Team Leader Western Cape** |
| **Mr Ruan Junius** | **Mr Brian Davidson** |
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| **Date Signature** | **Date Signature** |