

# Spares Calculator Batch Processor – Tutorial 1

## Introduction

Consider the following example.

We work for a company called vPhone and vPhone are a national US mobile phone operator.

vPhone have just taken over the support and maintenance of a new chain of base transceiver stations.

Before they go into service they're going to need to find out how many spare parts they are going to need to buy.

vPhone have divided their support system into 50 regional support centres. One in each state across the United States of America.

Each regional support centre will be responsible for the support of.

1000 systems of type A.

2000 systems of type B.

4000 systems of type C.

The regional support centre will also be responsible for replenishment of faulty items via the supplier.

Each system will operate for 24 hours per day and will consist of 25 common parts and a number of unique parts.

System A has 5 unique parts.

System B has 10 unique parts.

System C has 15 unique parts.

These three documents contain the bill of materials for each of the three systems under analysis.

They were produced in Microsoft Excel and saved in CSV format.

CSV stands for Comma Separated Value and is a common format for exchanging data between different applications.

For example, it's often used to exchange data between ERP systems such as SAP, Oracle and JD Edwards, as well as desktop applications such as Microsoft Access, Microsoft Excel and the Spares Calculator Batch Processor.

There are two ways to populate the Spares Calculator Batch Processor.

You can either enter the data directly by using these buttons down here or you can import a CSV file.

In this example I'm going to import the three CSV files that we looked at a few moments ago.

To do that I'm going to click on IMPORT > CSV IMPORT and I'm going to import the System A bill of

materials.

I'll now repeat the process for System B bill of materials.

And finally I'll import System C bill of materials.

OK, we now have a database of 105 items.

Next, I'll click on OPTIMIZE INVENTORY button and I'll produce a consolidated list of Spare Parts.

During the optimization process – two lists were produced.

The first was the non-consolidated spare parts list.

This was produced by looking at the 105 parts in isolation and forecasting how many spare parts each entry would need.

The second list was the consolidated parts list and this was produced by combining each of the parts into a single consolidated list and then recalculating.

For example, consider LRU1. This is a common part and can be seen in each of the three systems.

Here it is in system A. Item 6. Notice that if this were the only occurrence of this item we would need 11 spare units.

Here it is in system B. Item 41. Again if this were the only occurrence of this item we would need 36 spare units.

Finally, here it is in System C. Item 81. Here we would need 125 spare units.

If you add 11 plus 36 plus 125 spare units you get a total of 172 spare units.

However, by combining the systems and recalculating, the requirement is reduced to 161 spare units.

A reduction of 11 spare units.

That's the advantage of producing a consolidated spare parts list. By consolidating the parts the overall requirement can be reduced.

Also notice that the consolidated spare parts lists contains just 55 line items.

Finally, I'm going to produce a set of reports.

I'll start by producing a PDF report for our procurement team.

First I'll click on EXPORT > PDF REPORT.

I'll select consolidated parts lists.

Then I'll select all of the fields.

Now I will deselect the ones which are of no use to our procurement team.

I'll save the document as vPhoneBTSProcurement.pdf

Finally, I'll check the report to make sure it looks OK.

Next I'll produce a non-consolidated CSV report for our maintenance team.

This will be used for planning purposes in Reliability Centred Maintenance workshops.

So, I'll click on export.

Click on CSV Export.

I'll select Non-consolidated parts list.

Save it as vPhoneBTSOperations.csv.

Again, I'll check to make sure it looks OK.

Finally, I'd like to point out that by knowing which parts will fail and how often our, not only will our maintenance team will be able to plan the way they will manage their parts, but they will also be able to plan other logistic resources such as manpower, tools, test equipment, facilities, packaging and training.

That brings us to the end of this video.

Thanks for watching.