

### **Introduction**

**Copernicus has a long-standing reputation as an Industry specialist for calculations and accounting. This has been earned as a result of many years of providing software to all sectors of the Instalment Finance Industry, performing calculations and accounting entries flexibly and accurately.**

**Jupiter is the “Black Box” of all Copernicus software products. Each Copernicus software product passes a set of parameters, in XML format, that describe the function to be performed and the various elements that Jupiter requires for that function. Jupiter then processes the parameters and passes the answer(s), in XML format, back to the calling software product.**

**Thus, Copernicus provides user-friendly financial modelling and evaluation functions for all sectors of the Industry.**

**Due to the technology employed, and the highly efficient design criteria, the end result is highly accurate, flexible and incredibly fast.**

# Calculation and Accounting Elements

As you would expect from Copernicus' reputation, Jupiter calculates and accounts for all Industry requirements that we know of. These include:

- **Pre tax**
- **Post tax**
- **Lease**
- **Loan**
- **Back to back**
- **Monthly and Daily**
- **Payment frequency:**
  - **Weekly**
  - **Bi-weekly**
  - **Four weekly**
  - **Twelve weekly**
  - **Monthly**
  - **Quarterly**
  - **Half-yearly**
  - **Annually**
- **Payment structure:**
  - **In advance**
  - **In arrears**
  - **Irregular**
  - **Seasonal**
  - **Block**
- **Multiple Cashflows**
- **Multiple Drawdowns**
- **Fees – spread or capitalised**
- **Commission**
- **Subsidy**
- **Residual Value**
- **Secondary rentals**
- **Accounting:**
  - **IAS**
  - **GAAP**
- **VAT**
- **Termination**
  - **Maintain margin**
  - **Discount future rentals**
  - **Rule of 78**
- **Fixed rate**
- **Variable rate:**
  - **Choice of methods**
  - **Base rate linked**
  - **Calculation type choice**
  - **Interest rate change choice**
  - **Interest payment method choice**
  - **Interest compounding choice**

# Example

Jupiter XML (JXML) is an XML based way of describing calculations to be performed by the Copernicus Jupiter calculation engine. Thus Jupiter can be called from a wide variety of systems that are capable of creating and then passing XML to a Jupiter engine (C# assembly or web service)

JXML is best described by way of an example. The following is an example of Europa rescheduling an agreement which has the following objectives:

- keep the first (invoiced) payment at 320.00
- keep the accounting data that has already been recognised
- achieve a 1% margin after tax

Europa automatically sets the "canchange" attribute (the "N") when an amount has been invoiced. In a subsequent rental calculation only canchange="Y" payments are altered until the required margin is achieved.

Accounting data is also recalculated unless it has already been recognised. In our example accrued income, depreciation, gross earnings and document and option fee earnings have been recognised for the first month. These are therefore fixed as shown in the JXML below. Commission write off and subsidy earnings are also fixed where these are included in a contract.

JXML is made up of the following sections:

- agreement
- product
- cashflow
- interest
- company

```
<jupiter>
<agreement>
  <target>S1</target>
  <startdate>17/12/2005</startdate>
  <term>36</term>
  <earningsstartdate>17/12/2005</earningsstartdate>
  <e t="50" a="154.8400" d="31/12/2005"/>
  <e t="51" a="115.0600" d="31/12/2005"/>
  <e t="52" a="39.7800" d="31/12/2005"/>
  <e t="55" a="1.3100" d="31/12/2005"/>
  <e t="56" a="0.6500" d="31/12/2005"/>
</agreement>
<product>
  <tax>Y</tax>
  <daily>Y</daily>
  <accounting>Y</accounting>
  <accountingmethod>IAS</accountingmethod>
  <vat>Y</vat>
  <hasconstructionperiod>N</hasconstructionperiod>
</product>
<cashflow>
  <Schedule>
    <ST>1</ST>
    <name>Asset</name>
    <include>Y</include>
    <TM>WDA</TM>
    <FYA>25</FYA>
    <DB>25</DB>
    <Apportion>Y</Apportion>
    <Accelerated>Y</Accelerated>
    <VATCODE>S</VATCODE>
  </Schedule>
</cashflow>
</jupiter>
```

<cash date="17/12/2005">  
 <amount>-10000</amount>  
 <number>1</number>  
 <frequency>S</frequency>  
 <canchange>Y</canchange>  
 <vat>-1750</vat>  
 <vatreturndate>17/12/2005</vatreturndate>  
 <vatoutdate>17/12/2005</vatoutdate>  
 <vatindate>17/12/2005</vatindate>  
 <residualvalue>0</residualvalue>  
 <residualdate>17/12/2008</residualdate>  
</cash>

</Schedule>

<Schedule>

<ST>2</ST>

<name>Rental</name>

<include>Y</include>

<TM>ACCRUALS</TM>

<AM>ACCRUALS</AM>

<advance>1</advance>

<ipause>0</ipause>

<ASD>17/12/2005</ASD>

<VATCODE>S</VATCODE>

<cash date="17/12/2005">

<amount>320</amount>

<number>1</number>

<frequency>M</frequency>

<canchange>N</canchange>

</cash>

<cash date="17/01/2006">

<amount>330</amount>

<number>35</number>

<frequency>M</frequency>

<canchange>Y</canchange>

</cash>

</Schedule>

<Schedule>

<ST>3</ST>

<name>Subsidy</name>

<include>Y</include>

<TM>CASH</TM>

<VATCODE>S</VATCODE>

<cash date="17/12/2005">

<amount>0</amount>

<number>1</number>

<frequency>S</frequency>

<canchange>Y</canchange>

</cash>

</Schedule>

<Schedule>

<ST>4</ST>

<name>Commission</name>

<include>Y</include>

<TM>CASH</TM>

<VATCODE>S</VATCODE>

<cash date="17/12/2005">

<amount>0</amount>

<number>1</number>

<frequency>S</frequency>

<canchange>Y</canchange>

</cash>

</Schedule>

<Schedule>

```
<ST>5</ST>
<name>Doc fee</name>
<include>N</include>
<TM>NONE</TM>
<VATCODE>S</VATCODE>
<cash date="17/12/2005">
  <amount>50</amount>
  <number>1</number>
  <frequency>S</frequency>
  <canchange>N</canchange>
</cash></Schedule>
<Schedule>
  <ST>6</ST>
  <name>Option fee</name>
  <include>N</include>
  <TM>NONE</TM>
  <VATCODE>S</VATCODE>
  <cash date="17/12/2008">
    <amount>25</amount>
    <number>1</number>
    <frequency>S</frequency>
    <canchange>Y</canchange>
  </cash>
</Schedule>
<Schedule>
  <ST>12</ST>
  <name>Secondary rental</name>
  <include>N</include>
  <TM>NONE</TM>
  <VATCODE>S</VATCODE>
  <cash date="17/12/2008">
    <amount>0</amount>
    <number>5</number>
    <frequency>A</frequency>
    <canchange>Y</canchange>
  </cash>
</Schedule>
</cashflow>
<interest>
  <type>REAL</type>
  <Paid date="17/12/2005">
    <rate>5</rate>
    <frequency>M</frequency>
  </Paid>
  <Received date="17/12/2005">
    <rate>3</rate>
    <frequency>M</frequency>
  </Received>
  <Margin date="17/12/2005">
    <rate>1</rate>
    <frequency>M</frequency>
  </Margin>
</interest>
<company>
  <yearend date="31/12/2002">
    <paytax date="14/07/2002">
      <percent>25</percent>
    </paytax>
    <paytax date="14/10/2002">
      <percent>25</percent>
    </paytax>
    <paytax date="14/01/2003">
      <percent>25</percent>
    </paytax>
  </yearend date="31/12/2002">

```

```
</paytax>  
<paytax date="14/04/2003">  
  <percent>25</percent>  
</paytax>  
</yearend>  
<tax date="S">  
  <rate>30</rate>  
</tax>  
</company>  
</jupiter>
```

## Technology

As with all Copernicus software products, Jupiter utilises the ultra-latest technology.

This includes:

- **Web native .NET**
- **C# development environment**
- **Totally object-oriented**
- **XML for all interfacing**

More Information:

Helios Financial Systems

P.O. Box 7757

Naples, Florida 34101

sales@heliosfinancialsystem.com

(800) 975-8760



**Helios Financial Systems**