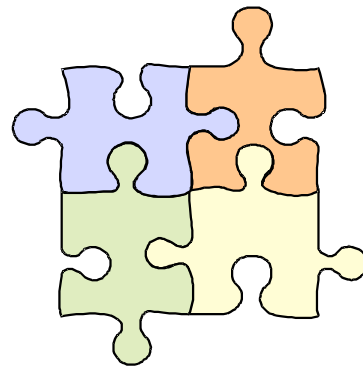

CapInvest

Day-to-Day Analytical Support for Financial Institutions



Conceptual Overview

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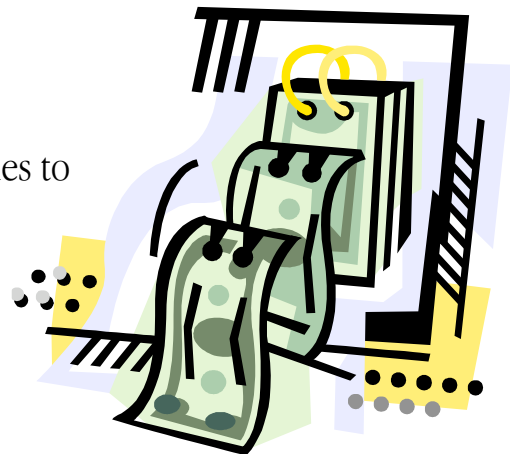
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“CapInvest is a financial software product that provides superb analytical support for all situations where an investment is made for earning a return on investment”

Examples of such transactions include, a bank extending a loan to a customer, a hire purchase transaction, a leasing transaction, a housing loan, an installment credit scheme offered by a finance company, and so on.

An originator of the transaction (bank, finance company, leasing company) that is offering financial products to customers requires tools to address the following:

- (a) design a set of repayment flows that return the principal and a targeted rate of return on outstanding investment;
- (b) design a set of repayment flows that may vary from period to period to accurately reflect requirements of (i) the borrower, or (ii) the lender, while maintaining full fidelity to return on investment objectives of the originator;
- (c) develop a transaction that successfully targets an originator's other objectives, such as Profit Before Tax, Profit After Tax, and so on;
- (d) provide insights into a transaction, via specialized reports;
- (e) make available large number of variables to precisely structure and engineer a transaction that is fully in line with expectations of the borrower and lender.



“Solutions that address these requirements fall into two camps”

Financial Calculator / Worksheet-Sheet Based Solutions

By far, this solution is one that is most widely used; the advantage is you can carry the tool in your shirt pocket and with little training, a user can master the skills to generate bread-and-butter quotes and repayment schedules. There are several disadvantages to this approach: the repayments are all equated repayments with no scope for customization. The insight into a transaction is confined to the rate of return on a transaction.

Database Add-ons

A solution that is widely used in the corporate world is providing analytical tools that are add-ons to the corporate database; in effect, these tools constitute an offshoot of the database being used. There are several disadvantages to this approach: first, such an analytical solution lacks the robustness that a full-blown analytical engine can offer – capabilities of such tools are limited in scope and tend to be rigid, reflecting pre-defined situations. Analytical tools are "soldered" onto a database - an executive cannot carry such tools to develop customized solutions in field in real time. Transactions (or proposals) are generated from the central office and are limited in flexibility and scope. If a new analytical feature is to be added, this involves a costly expense and requires a lot of time to develop and implement. New code needs to be tested and debugged. Changes are costly. This strategy follows a database-centric approach to an analytical solution - not the best route but a compromise solution at best.

Clearly, using database add-on tools cuts into the robustness of the analytical capabilities an originator would like to bring to the job.

Therefore, the process of structuring and developing financial products must be seen as comprising of two distinct phases: (a) a transaction 'structuring' phase wherein the originator has access to a stand-alone, full-blown analytical engine; and (b) a transaction 'capture' phase wherein the structured transaction is captured by the corporate database for reporting and inventory.

“The CapInvest Approach is a clear break from the two camps: it is far more powerful than what the most advanced financial calculator can offer and it offers exceptionally powerful and flexible analytical solutions compared to database add-on tools.”

CapInvest targets the first phase of activity (transaction structuring) by providing analytical tools to develop transactions that are fully in line with requirements of the originator and the market place. After a transaction is developed, the corporate database steps into the picture to pickup the transaction. CapInvest outputs in a form that can be easily integrated into any database backend: XML, HTML, CSV, Text, dBase, Lotus, Excel, Access, and so on.

To offer a full-blown analytical engine, CapInvest leverages on the Excel analytical engine developed by Microsoft. CapInvest taps into the millions of lines of code written and pre-tested by Microsoft, as also the world-class analytical features offered by Excel. CapInvest customizes the Excel engine using advanced financial modeling techniques and the visual basic programming language, to offer the very best analytical solution to financial institutions originating consumer and asset finance products.

“Where fine tuning is necessary, CapInvest can easily be customized. Customization may take the form of additional modules being added to the product or additional reports being added to an existing module”

In developing a product that can be used in 160 countries, the developer of the product needs to make some very clear choices: CapInvest cannot possibly accommodate the millions of variations and practices in the financial market places of different countries. For example, tax depreciation practices in India state that an asset acquired before the middle of a tax accounting year will be allowed full first year depreciation, while an asset acquired in the second half of an accounting year will be allowed half of the first year depreciation. Tax regulations in Argentina state that depreciation will be available proportionately - if an asset is acquired on the first day of the year, full depreciation is available, while an asset acquired on the last day of an accounting year receives only 1/365th of first year depreciation. In Zimbabwe, a common practice is for a lessor to also finance the sales tax on an asset.

While such twists and turns of the market place can be accommodated in CapInvest via customization, the model focuses on essential financial relationships and equations that apply universally to all transactions, essentially disposing off 98% of requirements for an analytical solution (the model can also be used, as is, in many countries).

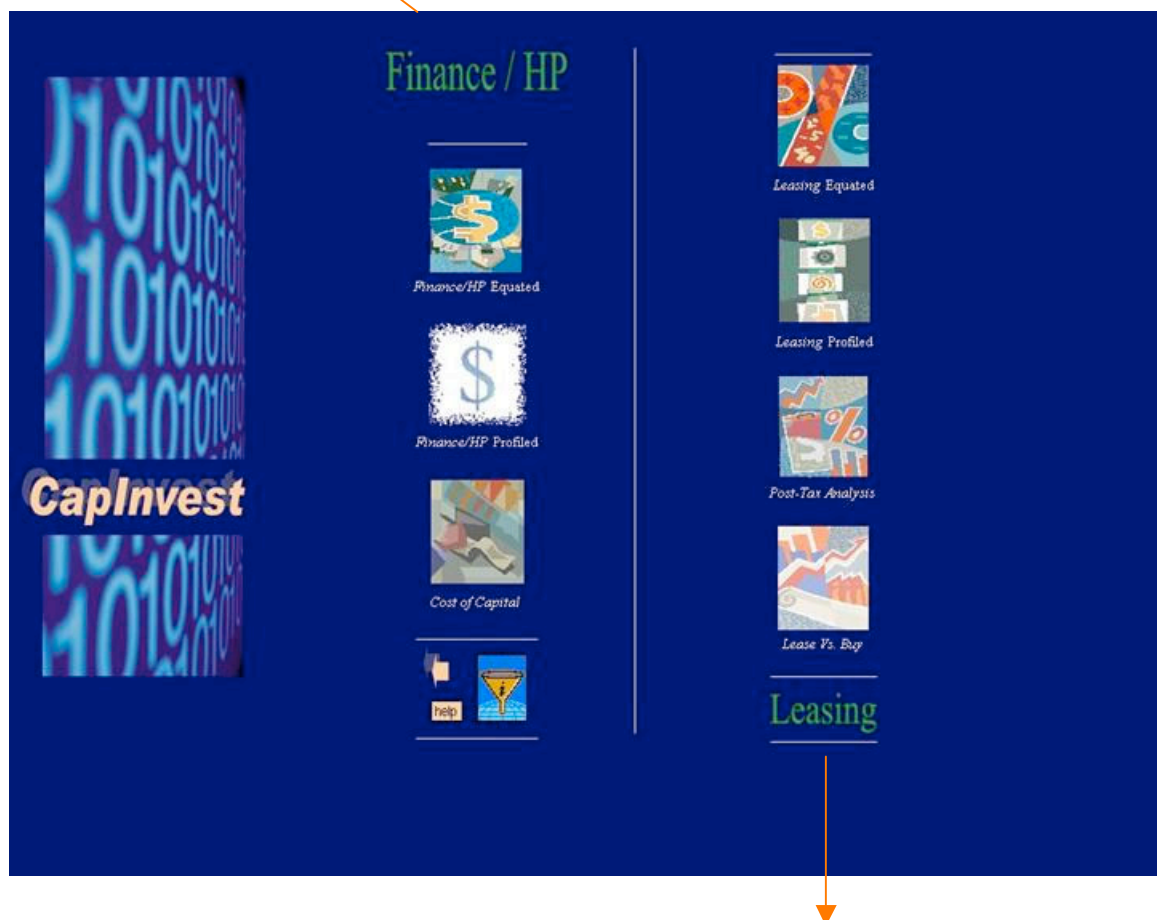
Where fine-tuning is required, CapInvest is easily customizable. Customization may take the form of additional modules being added to the product or an existing module being modified; or additional reports being added to an existing module or existing reports being modified.

“Two Streams”

CapInvest's functionality can be categorized into two streams: (1) Financing and Hire Purchase Transactions wherein tax depreciation does not come into play; and (b) Leasing Transactions wherein tax depreciation influences the feasibility of a transaction. Each stream in turn comprises of several modules that work together to provide complete analytical coverage.

As can be seen, both streams are available to a user from the main command center:

Modules in the Finance /
HP Stream



Modules in the Leasing
Stream

“The best way to learn to use the model is to jump right into it. Each module launches with a transaction that is already set up that you can modify and play to your heart’s content – develop a million dollar operating lease transaction, break a few legs, have fun”

Launch CapInvest by double-clicking the CapInvest short cut on your desktop. Use the password 1000 to login to the main command center (you can always change this password). To select a module, click on the module in the main command center window (pictured above). This will take you to the selected module.

A user can either return to the command center (perhaps to go to some other module from there) by clicking the backward pointing arrow, or completely exit the system by clicking the yellow colored arrow. Some modules are integrated with other modules and a user can traverse effortlessly between these modules. For example, a user developing a transaction in the lease-structuring module can go directly to the post-tax module to view the post-tax effects of the transaction; this action transports the user

(and all of the transaction variables that have been set in the module) to the destination module. On the left side of each module are the variables that a user can change to structure a transaction and on the right are the financials of the transaction – the financials are locked, so there is no risk of over-writing anything.

To get started, experiment by changing the values for variables; for example, go to the Leasing Equated Module and change any of the variables. You can see the changes reflected in the reports for the transaction. Set up an Operating Lease Transaction by punching in the residual value for the asset and so on.

Both Profiling Modules launch with default transactions (and random rental factors in the profiling grid) – you can change any of these random factors and see the base rental instantly recalculated. For example, if you set all the rental factors in the grid to 1, this is the same as setting up an equated transaction.

CapInvest also has a 'fast track' feature wherein, (1) a user can by-pass the password login; and (2) by-pass the command center to go directly to a pre-selected module. These options can be accessed from the 'Rapid' menu item of the CapInvest Menu

“Product-Wide Features”

Regardless of the type of transaction that is being developed or the module that is being used, the following features are available to a user:

TRANSACTION OVERVIEW IN MAIN MODULE

As a user goes about developing a transaction, a birds-eye view of the transaction is presented in the main module itself, such as Transaction Start Date, Last Payment, First Payment, Total Repayments, Total Income, Total Expenses, Tax on the Transaction, Profit Before Tax, Profit After Tax, and so on. These summary indicators provide a broad profile of the transaction. Data in a module is divided into two categories: user input and financials. The cells where user input is required will allow entry while cells that report the financials of the transaction will not permit entry.

DETAILED REPORTS

Each module has an associated Reports Module that provides detailed insights into a transaction, such as an Amortization Schedule (or Capital Recovery Schedule), Repayment Schedule, profit by tax year-ends, and so on. The reports module can be accessed by clicking the Reports button in a module. Reports can be viewed on-screen, be printed with formatting, or saved to disk in any format a user desires, for integrating into a backend database.

“Product-Wide Features”

(for example, number of periods). Once this information is provided, CapInvest calculates the target value. A user may be interested in a target post-tax rate of return from a leasing transaction - in this case, the target is the post-tax rate, say, 12% and the variable to be changed maybe the depreciation rate. Given this information, CapInvest calculates the tax depreciation rate to achieve the target post-tax yield.

GOAL-SEEK ENGINE

For example, in developing a leasing transaction, a user can target a Profit After Tax for the transaction by indicating the desired target value for PAT and the variable to be changed

“CapInvest transactions come in two shapes - equated and profiled - regardless of whether the transaction is a loan, hp or leasing. Both shapes have a similar set of reports that provide insights into a transaction. CapInvest provides the tools to develop both shapes effortlessly and without any limits on shaping”

Transaction Shapes

EQUATED REPAYMENTS — Monthly, Quarterly, Half-Yearly or Yearly, payable in the beginning of a period or end of a period. This is the most common type of repayment. While easy to calculate, such payments do not address the specific requirements of a lender or borrower for repayment schedules that are un-equal from period to period.

PROFILED REPAYMENTS — these are repayments that vary from period to period in response to user set options. Profiled Repayment Schedules offer tremendous power and flexibility to an originator to develop products that are user friendly and that sub serve the originator’s financial objectives in other ways, as can be noted from the examples discussed later. Like equated repayments, profiled repayments could be Monthly, Quarterly, Half Yearly or

Yearly and could be payable at beginning of a period or end of a period.

“Before discussing the features of each module, let us examine some simple (but thorny) situation to appreciate how CapInvest makes it a child’s play to solve such situations”

These are simple illustrations. A user can address any market place requirement by breaking down requirements into a format that CapInvest understands.

The documentation on CapInvest contains several other examples that illustrate the use of CapInvest in different situations – see the case study document and the examples documents.

SITUATION ONE

Let us imagine you have a situation where the requirement is for a borrower (or hire purchasee or lessee) to pay three equated installments as down payment followed by the same monthly-equated installment during the rest of the term.

To address this situation, you cannot simply calculate the monthly repayment and multiply the same by 3 to arrive at the answer – doing so would only increase the cost of finance to the borrower, since all that you are doing is moving forward three installment payments that would otherwise have been paid towards the end of the term.

Rather, what you want is an equated monthly installment being paid all through the lease term and an amount that is three times this installment as deposit, while satisfying the rate of return requirements for the transaction (say 15% per annum).

Solving this problem is easy – go to the profiling module (Finance/HP Profiling Module or Leasing Profiling Module as the case maybe), input the other financial parameters for the transaction such as value of transaction, period of repayment, and so on, set payment mode as Advance/Arrears. To arrive at the answer, set the rental factor in the profiling grid to 3 for period 1 (since you want a repayment that is three times the base repayment) and the rental factor 1 for the remaining periods – and you have answer in the base rental that is computed instantly by the model. Reports provide the detailed insights into this transaction.

SITUATION TWO

“Imagine you are a bank and your policy is to charge monthly compounding interest on loans but to collect installments on a quarterly basis. How do you calculate an equated repayment for this situation? Assume that the loan is to be repaid in four quarterly repayments”

Once again, you cannot whip out your financial calculator to calculate the quarterly repayment for the transaction, since this answer would assume that outstanding balances are compounding quarterly – but that is not what you want.

You want interest to be compounded monthly but repayment to be paid quarterly. You cannot use the conventional methods of a financial calculator to do the job.

Once again, all that you need is to head to the Profiling Module (Finance/HP Profiling Module or Leasing Profiling Module as the case maybe), input the remaining financial parameters for the transaction such as value of transaction, period of repayment, and so on, set payment mode as Advance/Arrears.

To arrive at the answer, set the rental factor to 0 for months 1 and 2 (since no repayment is due in these months) and the rental factor 1 for month 3 – replicate this pattern for the remaining months of the year and you have answer in the base rental that is computed instantly by the model. Reports provide the detailed insights into this transaction.

SITUATION THREE

“Imagine you are developing a leasing transaction for a 5 year period and that you want to compute repayments in such a manner that these mirror the tax depreciation allowances in each year so that you are in a zero-tax situation for all but the last year”

In other words, assume the asset is worth 100 and is being leased to earn a total of 200 over a period of 5 years. The depreciation is straight-line of 20 per year.

What you want is ensure that lease rental from this transaction each year is fully off-set by the period depreciation charge so that no tax payable in any of the years, except the last year when profit is booked. Therefore, your rental stream will be 20 each year for the first four years and 20+ 100 or 120 for the last year. When depreciation is set-off, no tax is payable for the first four years and tax is due only in year 5.

Once again, you need to head to the profiling module and use the ‘Reverse Engineering’ feature of the module. Click the ‘Reverse’ button and enter the ‘designer’ repayments into the appropriate cell. Assuming that repayments are paid annually, you will enter the values of 20 in the first four years cells and the value of 20 + desired profit in the cell for year 5. Enter the remaining parameters for the transaction such as the annual pricing rate and the model will calculate the value of the lease to be financed.

SITUATION FOUR

“Let us imagine you want to be wickedly wild and you wish to develop a repayment schedule that every financial analyst in the World would willingly term as Mad”

A Mad Repayment Schedule

Month 1 / 10,000 times the normal rental
Month 2 / 10% of the normal rental
Months 3 to 9 / no repayments
Month 10 / normal repayment
Month 11 / 50 times the normal repayment
Month 12 / 25% of normal repayment

The above transaction is merely illustrative and a transaction can be something that a customer wants – for example, a repayment schedule that increases (or decreases) by 25% period to period, and so on.

What is the base or normal repayment for such a transaction? You cannot take refuge in normal techniques because they do not offer a solution. It is practically impossible to compute the base rental using conventional methods.

For a CapInvest user though, the answer is child’s play. Go to the profiling module and enter rental factors into the appropriate grid to reflect the above requirements - in the cell for Month 1, enter 10,000 to indicate a repayment that is 10,000 times normal, enter .10 in Month 2, enter 0 in Months 3 through 9, enter 1 in Month 10, enter 50 in Month 11 and enter .25 in Month 12. Your answer is the base repayment that the module calculates, as you enter requirements.

You can check out the reports for the transaction to ensure that the financial objectives are being met. Take a look at the Amortization Table to see if you are earning the targeted rate of return on outstanding balance.

“Every financial investment revolves around the harmonious interaction of five variables. Given values for four variables, you can always calculate the value of the remaining variable”

TRANSACTIONS OVERVIEW

1. the value of the investment;
2. the period repayment;
3. the repayment (if any) to be made in future on end of the transaction;
4. the interest rate per period; and
5. the duration of the transaction.

Given information on any four of the above variables, the fifth variable can easily be calculated. Therefore, cells in the model that deal with the above variables perform dual functions: (a) you can store the value for the variable (assuming you need to compute the value for some other variable); or (b) you can calculate a value for that variable, given information on the other variables.

To use a cell to provide or store the value for a variable, simply enter the value into the cell and that is that. On the other hand, if you wish to calculate the value of a variable, click the small grey button in the cell (after having entered values for the remaining variables).

In countries that have a Value Added Taxation System in place, CapInvest provides superb tools to quantify the carrying cost of VAT; it goes a step further to suggest the revised pricing rate to completely offset the carrying cost of VAT – VAT has implications for leasing transactions.

*“CapInvest
Modules”***FINANCE / HP EQUATED**

Use this module to develop Financing and Hire Purchase Transactions, where repayments are equal from period to period.

FINANCE / HP PROFILED

Use this module to develop Financing and Hire Purchase Transactions, where repayments vary from period to period.

COST OF CAPITAL

Use this module to arrive at an accurate cost of borrowings for use in pricing financial transactions.

LEASING EQUATED

Use this module to develop leasing transactions, where repayments are equal from period to period

LEASING PROFILED

Use this module to develop Leasing Transactions, where repayments vary from period to period.

POST-TAX ANALYSIS

Use this module to examine a leasing transaction from a post-tax perspective.

LEASE VS. BUY

Use this module to analyze the benefits of leasing vis-a-vis buying. This is a powerful tool to convince lessees of the benefits of leasing. Lessees normally assume leasing is costly than other sources of financing by basing their conclusions on a single factor: the interest rate embedded in a lease. However, there are other factors that need to be taken into account and this module takes all relevant factors to provide an overall quantitative estimate of the benefits of leasing.

“CapInvest Documents”



The CapInvest CD comes with several useful documents; for example:

USER MANUAL

This document provides screen-shots and comments on the various modules and has a lot of information that is useful for operating the model.

CASE STUDY

Discusses a real-life example of a leasing transaction in India to focus on the tasks ad-

dressed by CapInvest and to provide perspectives on how CapInvest can address requirements.

EXAMPLES

This document provides a step-by-step procedure for carrying out common tasks using CapInvest, such as developing a profiled transaction, pricing a lease, and so on. Use this document to get started quickly.

BROCHURE

Provides an overview of CapInvest and some of its features.

FEATURES

This document sets out the features of the various modules, module by module and is a good way to get a bird's eye view of features.

POST TAX PRICING TECHNIQUES

This document explains a powerful technique available to leasing companies in pricing leases.

LEASE Vs. BUY

This document sets out results of an actual Lease Vs. Buy Exercise carried out for a lessee.

VAT

This document discusses the implications of VAT for leasing operations and in pricing a lease.

PRODUCT DEVELOPER

This document provides the conceptual underpinnings for using the Product Developer Portal to develop user-friendly Financial and Savings Products.

SECURITY

To safeguard the intellectual property embodied in CapInvest, the product incorporates security measures. Each PC on which CapInvest is installed requires to be activated by a special program supplied by VTA. CapInvest disables itself on the expiry date.

A PC that has been activated on a demo basis will operate only during the demo period (which depends on the demo Activator that has been embedded into the program).

A demo cannot be extended by reinstalling the software or by re-running the demo Activator. Likewise, copying an activated version of CapInvest to a different PC will not enable the program on the new PC.

EXPIRY DATE OF PROGRAM

You can check the expiry date of your CapInvest Installation from the USAGE sub-menu in the OTHER Menu on the CapInvest Main Menu.

LICENSING CONTRACT

Installation of CapInvest is subject to a licensing contract between VTA and a licensee that sets out the terms governing the use of CapInvest. Subscription fee for a licensing contract is due at the time of signing the contract.

LICENSING PROCEEDURES

CapInvest is available on a nominal monthly subscription basis; the minimum lock-in period for issue of a license is 12 months – the minimum number of licenses for issue of a contract varies from country to country, in the range of 50 to 100. A partial period contract can be issued only to synchronize dates between two contracts.

**SUBSCRIPTION
FEE**

The monthly subscription fee is based on number of licenses. There are no other costs. The subscription fee entitles a licensee to use CapInvest and its documentation during the contracted period. If required, a licensee may contract for additional services such as, a technology contract. In the absence of additional service contract(s), the basic subscription fee includes queries pertaining to installation of CapInvest but not to its usage in a business setting. The documentation on CapInvest has been designed to assist a user to operate CapInvest independently and productively.

**NO CAPITAL
INVESTMENT
AND FREEDOM
TO RENEW**

CapInvest requires no capital investment; a licensee has full freedom to renew or not renew a licensing contract – the licensing contract imposes no pre-conditions.

**NON-
CANCELLABLE**

An issued contract cannot be canceled and there can be no refunding of licensing fee; in general, licenses are PC specific and not transferable; in the event a PC is destroyed or is incapable of operation or where a licensee upgrades hardware, VTA will have the discretion to accept a request for transfer of license(s) from an old PC(s) to a new PC(s), subject to a charge for programming.

Most of these conditions do not apply to a “Corporate License” contract which entitles a licensee to install CapInvest on any number of PC’s in a organization without pre-identifying PC’s.

ACTIVATION PROCEDURES

Subject to a valid contract being drawn-up between VTA and a licensee,

- 1. PC's on which CapInvest will be installed need to be pre-identified by a licensee;*
- 2. VTA will supply a software program to generate a unique ID for each PC –ID's will be included in the licensing contract;*
- 3. VTA will supply an Activator Program to a licensee to activate identified PC's for the contracted period;*
- 4. A PC that has not been pre-identified and whose unique ID is not included in the licensing contract will be unable to launch CapInvest (even though CapInvest is installed on the PC);*
- 5. On expiry of the contracted period, CapInvest will disable itself. A user will receive a reminder of the expiry date during the remaining two weeks of the lock-in period.*
- 6. A new licensing contract is required to use CapInvest for additional periods; the renewal contract is subject to a lock-in period of 12 months.*

UPGRADES

During the contracted period, a licensee will be entitled to free upgrades to CapInvest, if released.

PROGRAM SIZE

The size of the program (including on-line help system) is set out in the following table:

	Finance HP Stream	Leasing Stream	BOTH Streams
Navigator	1.85 MB	1.85 MB	1.85 MB
Modules	7.90 MB	9.10 MB	17.00 MB
Program Size	9.75 MB	10.95 MB	18.85 MB

LICENSING CHECK-LIST

- Identify PC's for CapInvest Installation;
- Run PC ID Program supplied by VTA on PC's requiring CapInvest;
- E-Mail PC ID program to VTA along with a request for issue of a licensing contract;
- Sign and return licensing contract to VTA to receive activators.