



# Scio Lease Manager

## *The “Swing Space”*

### **Understanding the meaning of a complex clause**



Here is the original text as displayed in Scio's Lease Manager.

It is a Swing Space clause taken from an office lease provided by one of Scio's clients.

After clicking Import, the system automatically deeply analyzes the text, utilizing grammatical and semantic knowledge bases, as well as external lexical resources, and generates persistent active structures that fully represent the text's meaning in the business sense.

After the lease is imported, clicking Abstract will generate a Lease Abstract in the form and format used by Commercial Real Estate Management Services companies – please see next slide.

The screenshot shows the Scio Lease Analyzer application window. The title bar reads "Scio Lease Analyzer - [C:\Orion\CM\Corpus\LeaseAbstrats\LeaseClause35.htm]". The menu bar includes "File", "Edit", "Options", "Tools", "Windows", and "Help". The toolbar contains buttons for "Validate", "Import", "Abstract", "Amend", "Export", "Tools", and "Reload". Below the toolbar are three tabs: "Lease Information", "Lease Layout", and "Text Analyzer", with "Text Analyzer" selected. The main content area displays "Clause 35" in blue text, followed by a paragraph of text and a list of sub-clauses (a, b, c) with further sub-points (i, ii). The left sidebar, titled "Lease Manager", contains a tree view of categories: Lease Attributes, Property, Landlord, Tenant, Manager, Premises, Use, Term and Dates, Basic Rent, Additional Rental Sp (with a sub-item "Swing Space" highlighted in red), Additions to Rent, Payments, Commissions, Services, Miscellaneous, Defined Terms, and External. At the bottom of the sidebar is a "Current Paragraph" field. The status bar at the bottom shows the file path: "C:\Orion\CM\Corpus\LeaseAbstrats\LeaseClause35.htm".

Clause 35

35. Swing Space. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, that portion of the Office Building located on the 24<sup>th</sup> floor consisting of approximately 8,000 square feet and commonly known as Suite 2400 as depicted on Exhibit B attached hereto (the "Swing Space"). Tenant's occupancy of the Swing Space pursuant to this Section 35 shall be subject to all of the terms and provisions of this Lease except as provided below.

a. Swing Space Term.

(i) Tenant may occupy the Swing Space commencing on the Commencement Date until the earlier of (a) the date Tenant's Work (as defined in Exhibit C attached hereto and made a part hereof) is "Substantially Complete" (as hereinafter defined); and (b) August 31, 2005 (the "Initial Swing Space Term"). The parties agree that Tenant's Work shall be deemed "Substantially Complete" when Tenant is able to occupy the entire Premises without undue interference caused by the final completion of Tenant's Work (such as completion of final punch list items).

(ii) Provided Tenant's Work is not Substantially Complete and provided that Tenant is not in Default under this Lease at any time during the Initial Swing Space Term, Tenant shall have the option to extend the Initial Swing Space Term to the final day of a calendar month as specified in Tenant's extension notice, but in no event later than August 31, 2006 (the "Extended Swing Space Term"). If Tenant desires to extend the Initial Swing Space Term, Tenant shall provide Landlord written notice not later than July 31, 2005.

b. Swing Space Rent.

(i) During the Initial Swing Space Term, Tenant shall not pay any Net Base Rent or Tenant's Proportion of Expenses and Taxes with respect to the Swing Space (provided, however, that the foregoing provision shall not relieve Tenant of its obligations to pay Net Base Rent and Tenant's Proportion of Expenses and Taxes with respect to the Premises as provided elsewhere in this Lease).

(ii) If Tenant occupies any portion of the Swing Space during the Extended Swing Space Term then commencing September 1, 2005 in addition to Tenant's obligations to pay Net Base Rent and Tenant's Proportion of Expenses and Taxes with respect to the Premises as provided elsewhere in this Lease, (a) Tenant shall pay Net Base Rent with respect to the Swing Space at the same rate per square foot of rentable area as the then-current rate of Net Base Rent per square foot of rentable area of the Premises, and (b) Tenant shall pay Tenant's Proportion of Expenses and Taxes with respect to the Swing Space.

c. Surrender of Swing Space. Upon the expiration of the Initial Swing Space Term or the Extended Swing Space Term (as the case may be), Tenant shall surrender possession of the Swing Space to Landlord in accordance with the terms of Section 23 of this Lease.



This is the Lease Abstract generated for the Swing Space clause. It is also generated as a separate file.

In this presentation we will go over some of the active structures generated for the clause.

Trying to illustrate multi dimensional logical space on a limited two dimensional monitor, we will show only some of the main structures that were created.

The screenshot shows the Scio Lease Analyzer application window. The title bar reads "Scio Lease Analyzer - [C:\Orion\CM\Corpus\LeaseAbstrats\LeaseClause35.htm]". The menu bar includes File, Edit, Options, Tools, Windows, and Help. The toolbar contains buttons for Validate, Import, Abstract, Amend, Export, Tools, and Reload. The interface is divided into several sections:

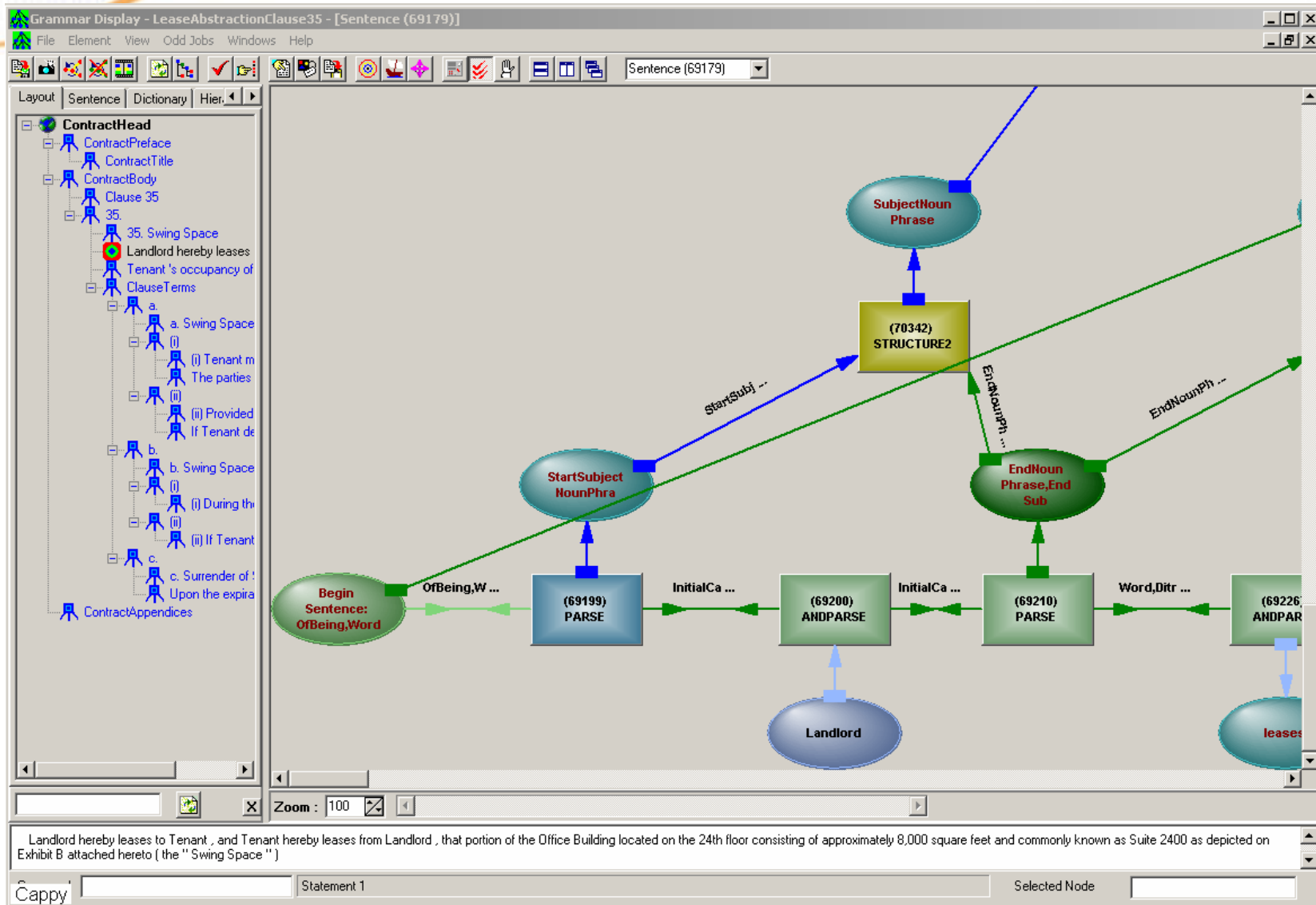
- Lease Manager:** A sidebar on the left with a tree view of lease components. "Swing Space" is selected and highlighted in red.
- Lease Information:** The main content area displays details for "Swing Space":
  - Premises:** Suite 2400
  - Rentable Area:** 8000 square feet
  - Location:** 24th floor
  - Terms:**
    - Commencement: 14/12/2004
    - Termination: 08/31/05
    - Extension Option: Yes
    - Extension To: 08/31/06
    - Condition: Tenant's Work is not Substantially Complete and Tenant is not in Default under Lease
  - Notice:** written notice by 07/31/05
  - Payments:**
    - During Initial Swing Space Term (14/12/2004 to 08/31/05): None
    - During Extended Swing Space Term (09/01/05 to 08/31/06): Net Base Rent, Tenant's Proportion of Expenses and Taxes (0.85%)
- Generated by Scio Lease Analyzer on 6/19/2006 14:34**

Below the information is a section for "Clause 35" containing the following text:

35. Swing Space. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, that portion of the Office Building located on the 24<sup>th</sup> floor consisting of approximately 8,000 square feet and commonly known as Suite 2400 as depicted on Exhibit B attached hereto (the "Swing Space"). Tenant's occupancy of the Swing Space pursuant to this Section 35 shall be subject to all of the terms and provisions of this Lease except as provided below.

At the bottom of the window, the status bar shows "Cappy ion\CM\C FILE STREAM C:\Orion\CM\Corpus\LeaseAbstrats\LeaseClause35.htm".

Here is the grammatical structure created for the first sentence, as shown in the Grammar Display tool. On the left, we can see the contextual hierarchy under which the structures are created. The hierarchy is used both for references from other parts of the contract and for providing context for new terms from other parts of the text. The base of the tree are the tokens, on top of which the system builds a multi level tree with increasing level of abstraction entities.



Landlord hereby leases to Tenant , and Tenant hereby leases from Landlord , that portion of the Office Building located on the 24th floor consisting of approximately 8,000 square feet and commonly known as Suite 2400 as depicted on Exhibit B attached hereto ( the " Swing Space " )

Here is an overview of the tree – the previous slide showed its lower left part.

Grammar Display - LeaseAbstractionClause35 - [Sentence (69179)]

File Element View Odd Jobs Windows Help

Layout Sentence Dictionary Hier. ▾

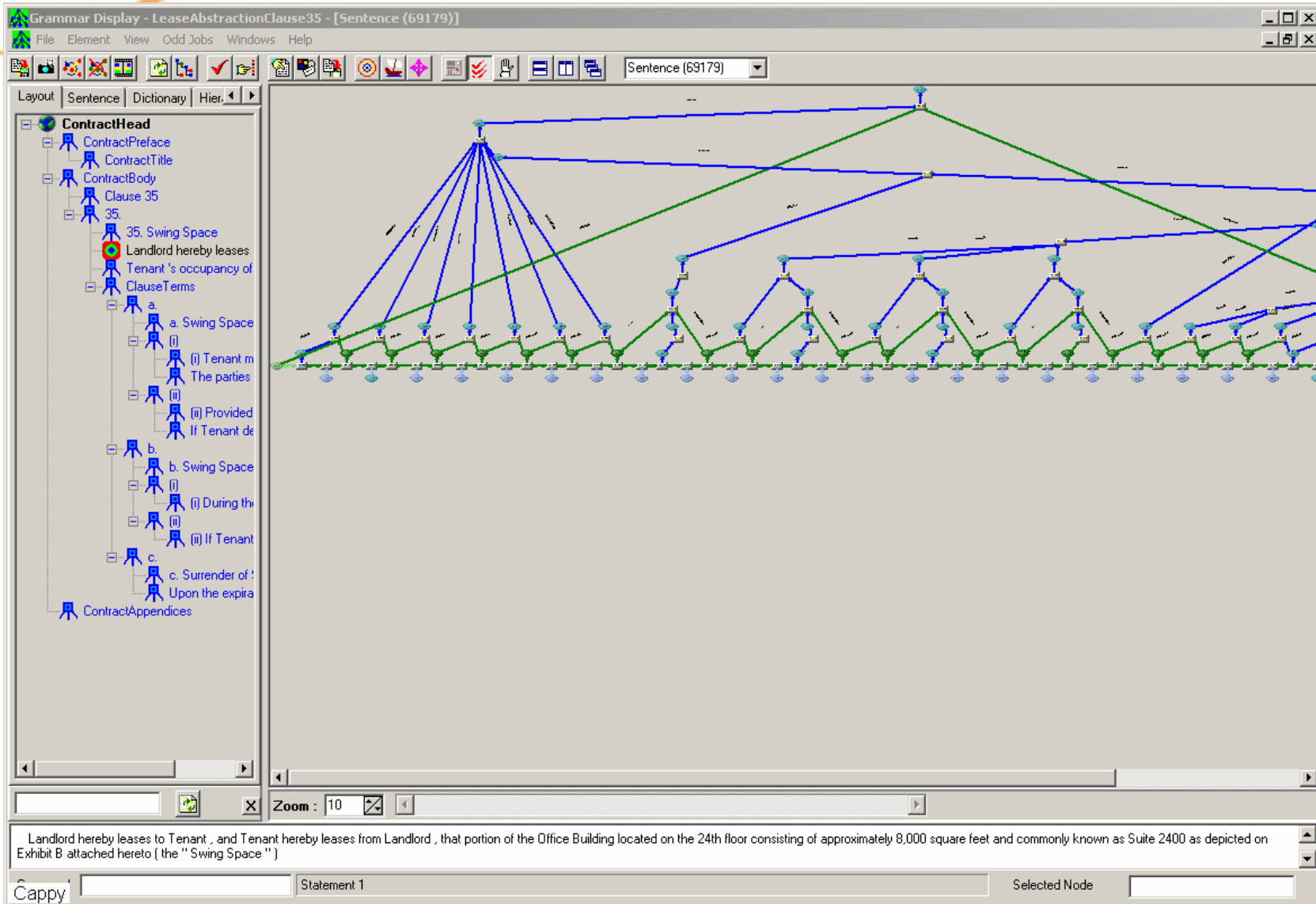
ContractHead

- ContractPreface
- ContractTitle
- ContractBody
- Clause 35
  - 35. Swing Space
    - Landlord hereby leases Tenant's occupancy of ClauseTerms
      - a. Swing Space
        - (i) Tenant m
        - The parties
        - (ii) Provided
        - If Tenant de
      - b. Swing Space
        - (i) During th
        - (ii) If Tenant
      - c. Surrender of:
        - Upon the expira
  - ContractAppendices

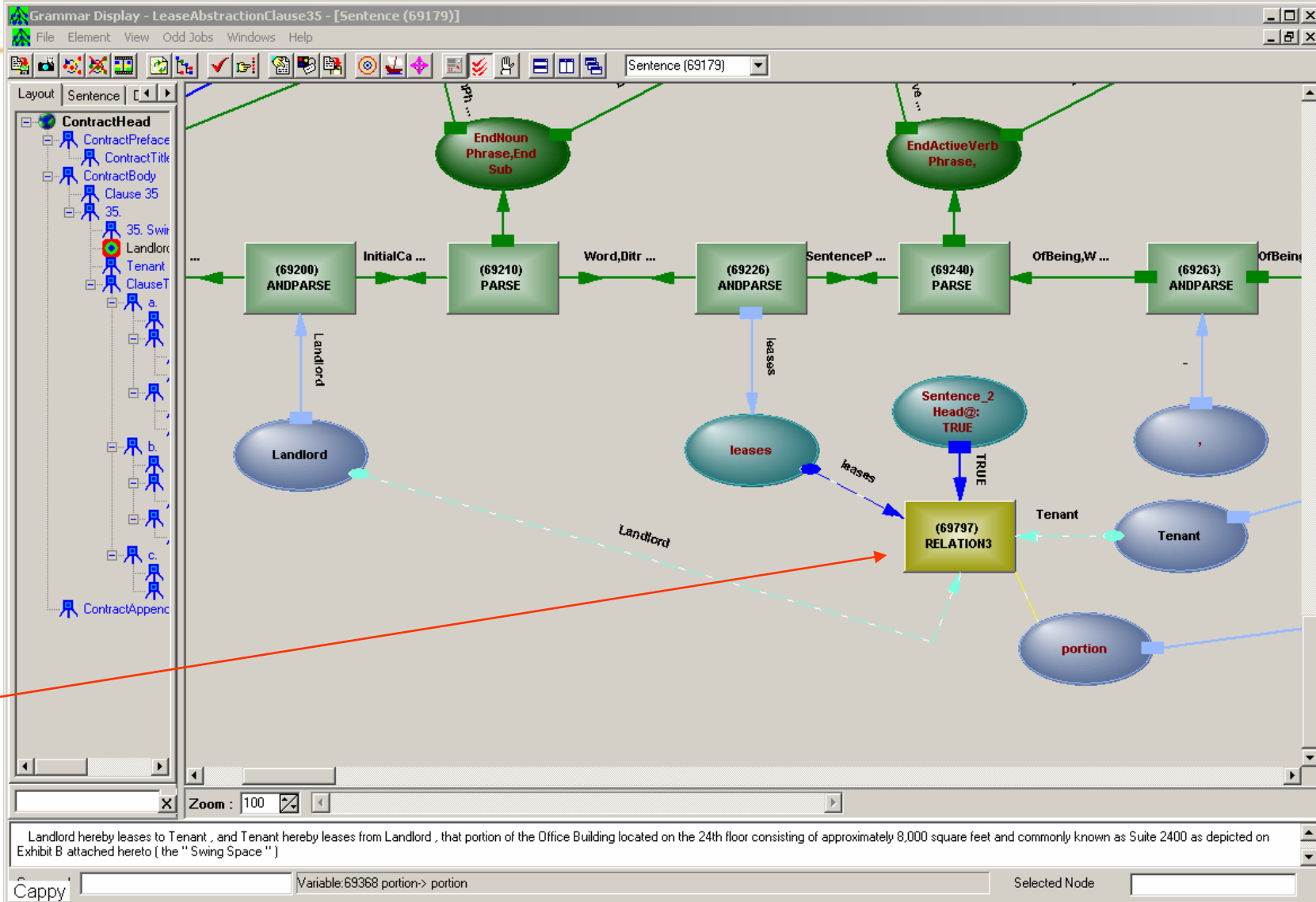
Zoom : 10

Landlord hereby leases to Tenant , and Tenant hereby leases from Landlord , that portion of the Office Building located on the 24th floor consisting of approximately 8,000 square feet and commonly known as Suite 2400 as depicted on Exhibit B attached hereto ( the " Swing Space " )

Copy Statement 1 Selected Node



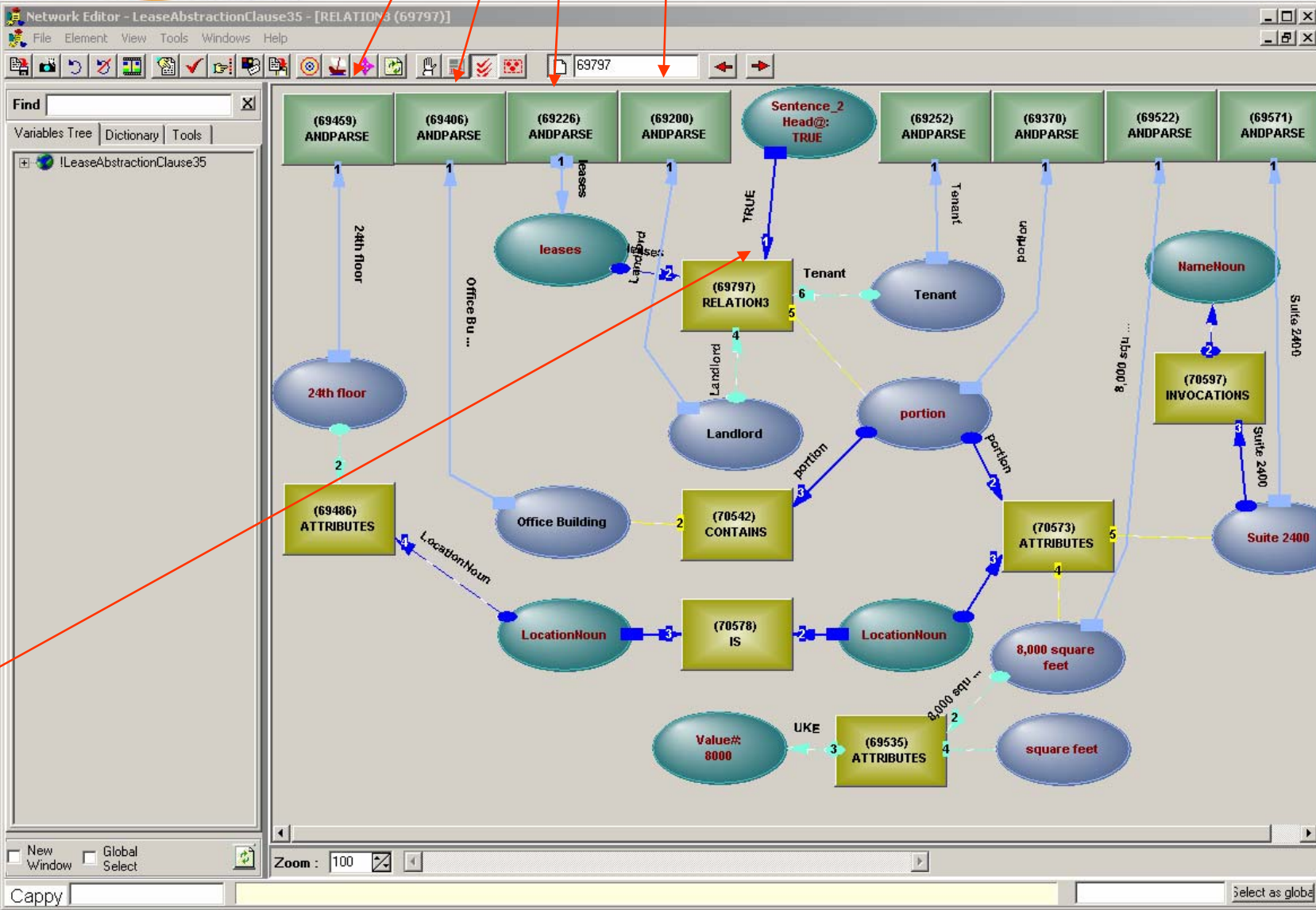
Here is a closer look. Throughout processing, and in the resulting structure, grammar is combined with semantics – the same word can be a noun, or a verb, but also an object, an active agent, an action, etc. In this example, we can see how the first 2 tokens, although part of the tree, are also linked semantically. The structure represents the ditransitive sense of “leases” in a **RELATION3** operator (representing actions or states), with Landlord as subject, portion as object, Tenant as second object.



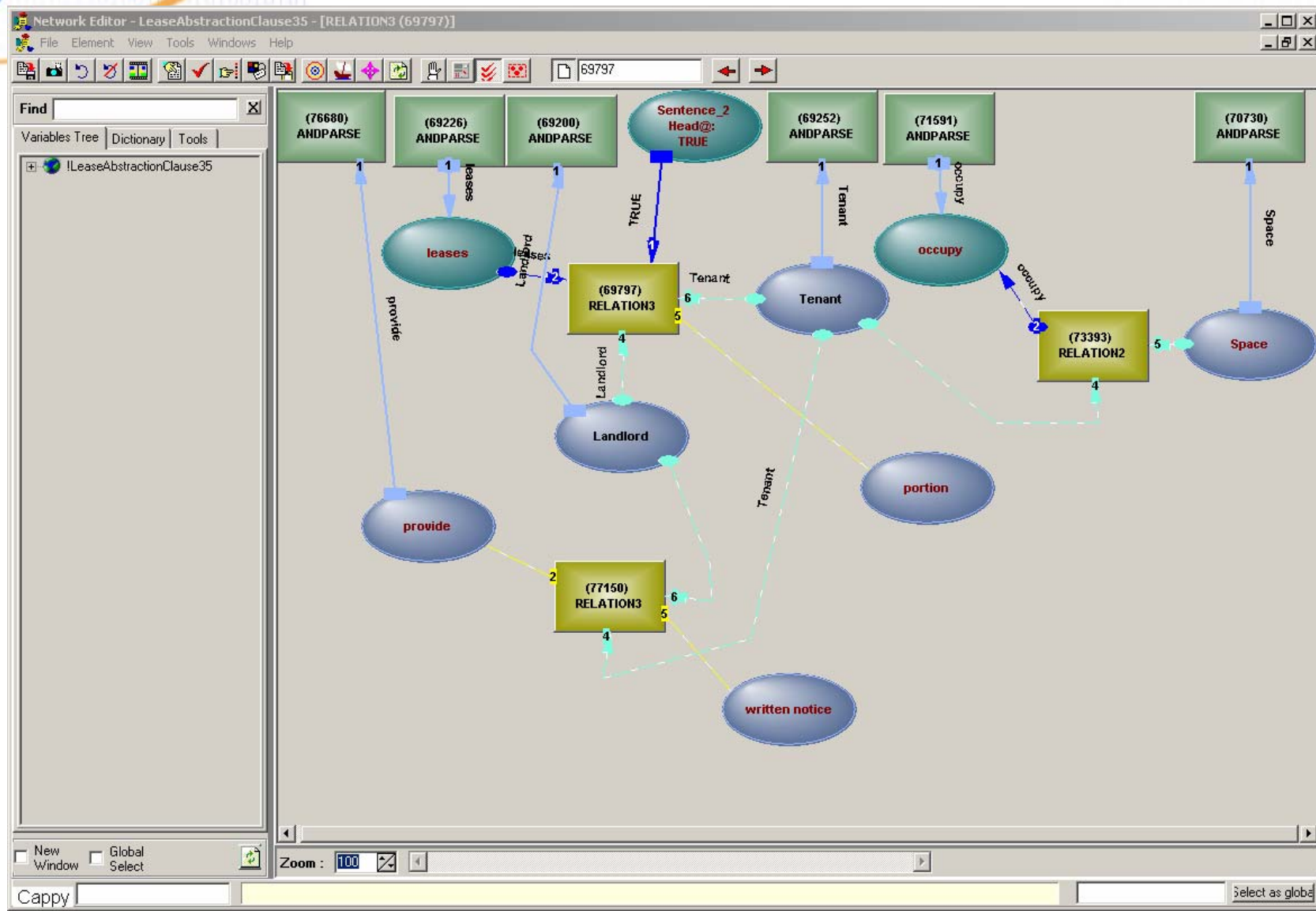
The objects linked to ANDPARSE operators are original tokens.

Here is the main structure created for the first sentence (Blue text indicates a reference to structures). A ditransitive relation meaning "Landlord leases portion to Tenant". Portion is contained in Office Building, its Location attribute is the Location of the 24<sup>th</sup> floor (meaning it is located in the 24<sup>th</sup> floor), its area attribute is 8000 square feet, and it has Suite 2400 as a name attribute.

In general, pin1 of a relation controls its validity. The "leases" relation is controlled by the validity of the sentence.

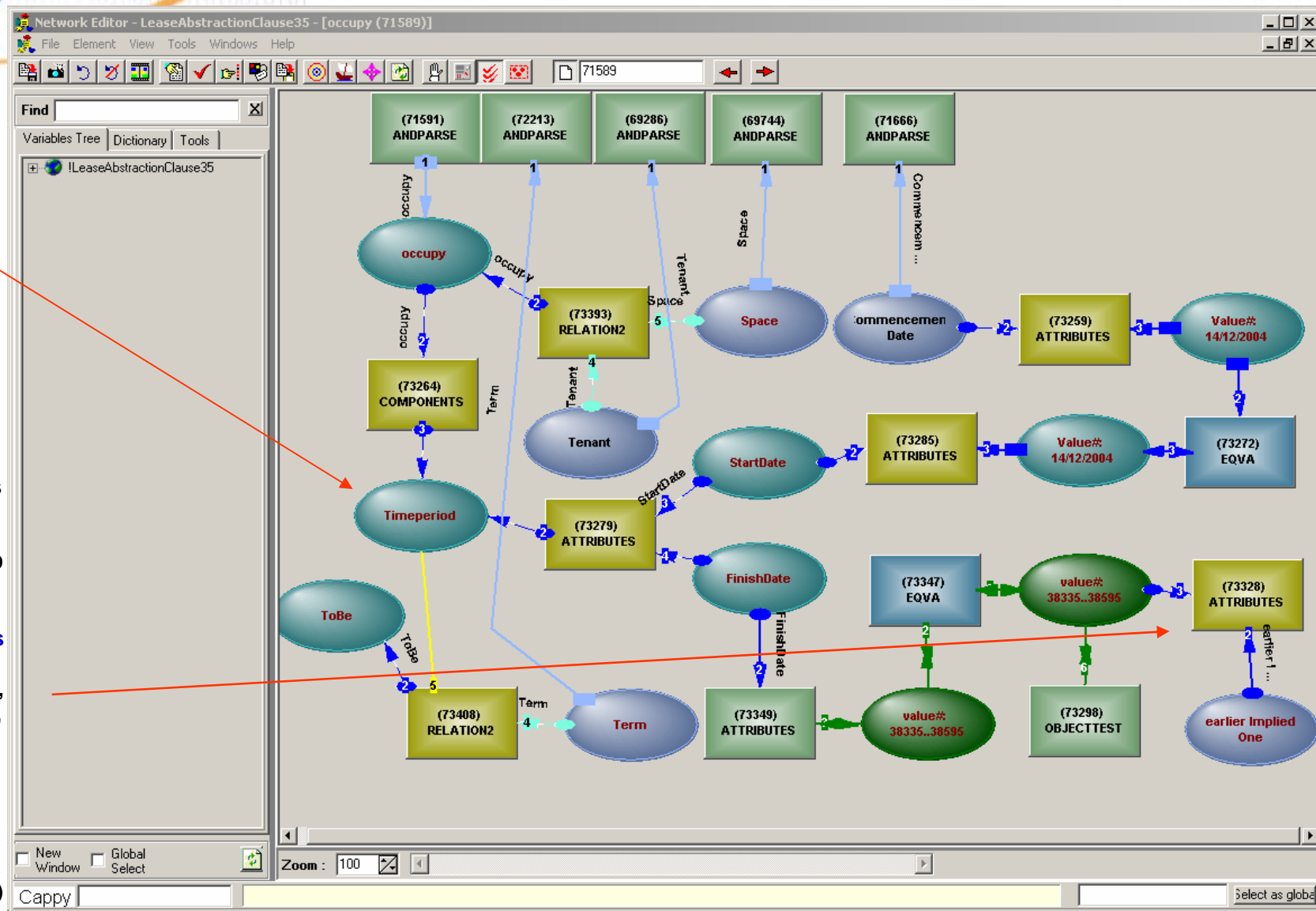


Note that some objects are shared among other sentences, clauses, or contracts. Here are some structures attached to Tenant and Landlord, generated for other sentences.

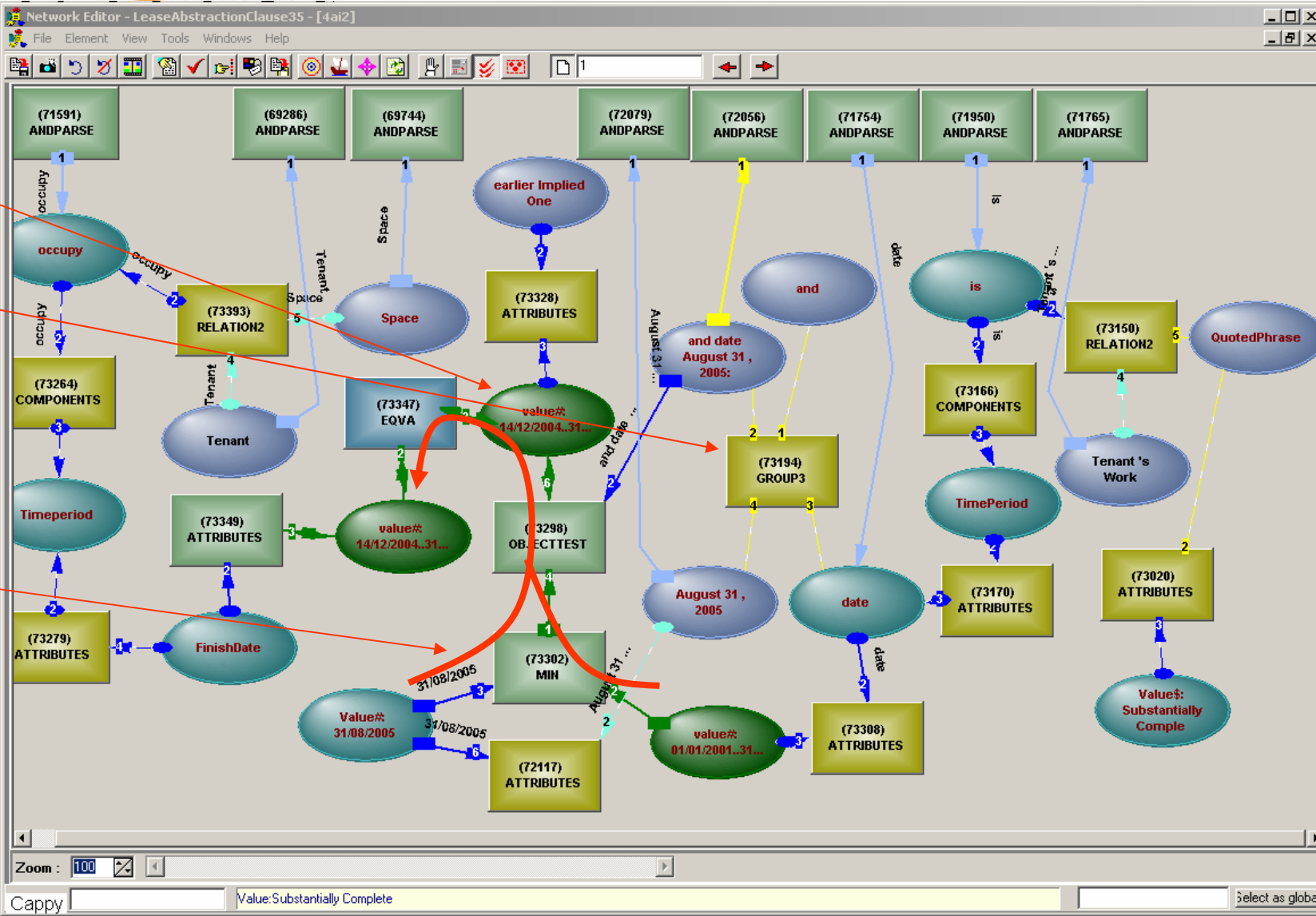




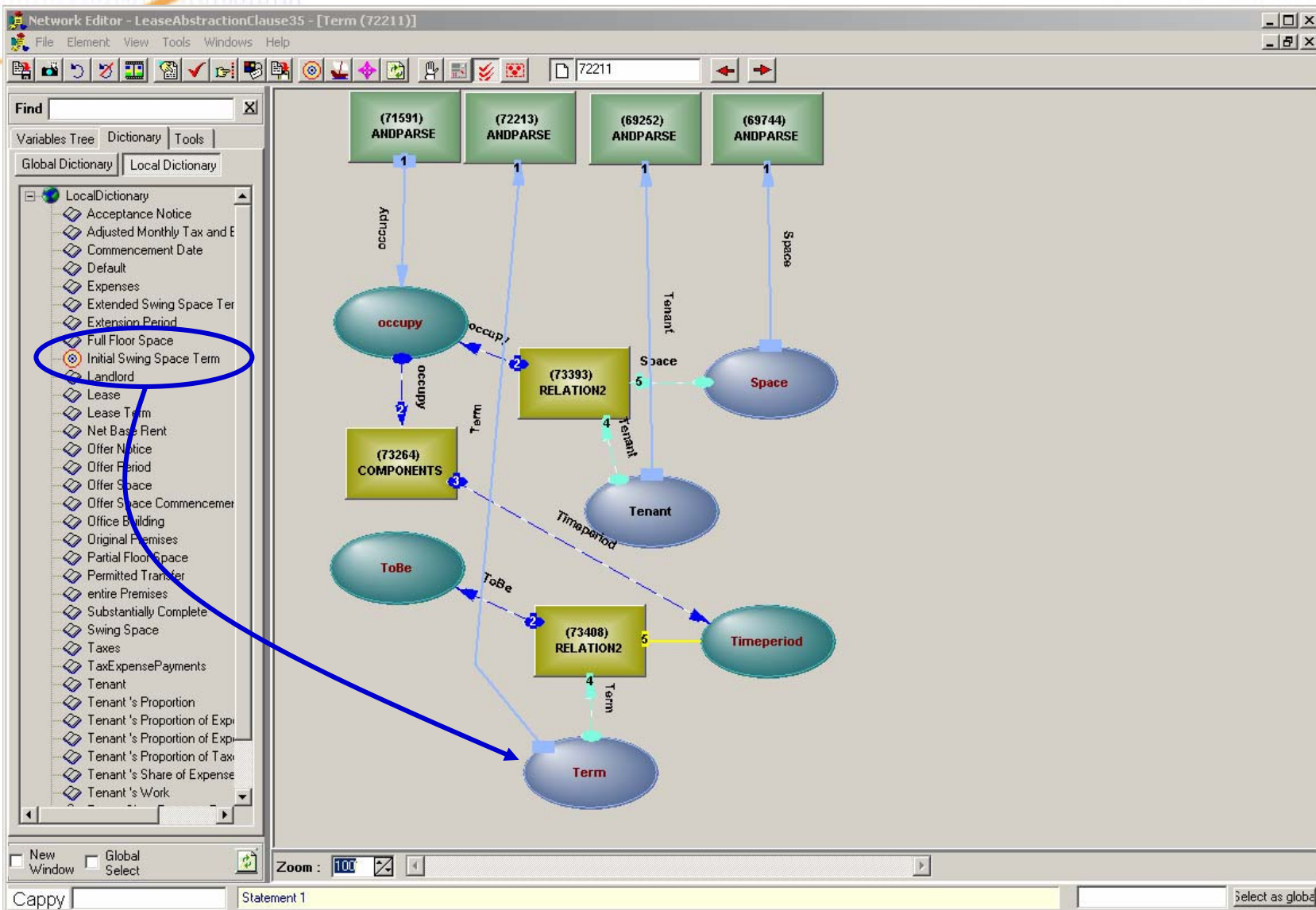
Here is the structure for section a(i). A **relation** – Tenant occupy space – which has a **TimePeriod component** (every relation has a TimePeriod comprising StartDate, FinishDate and Duration, which are mutually synchronized automatically). Its **StartDate** is the StartDate of Commencement Date (14/12/2004), and its **FinishDate** equals that of EarlierImpliedOne, an implied object, created by the system when processing “...the earlier of...” (becoming “... the earlier ImpliedOne of...”)



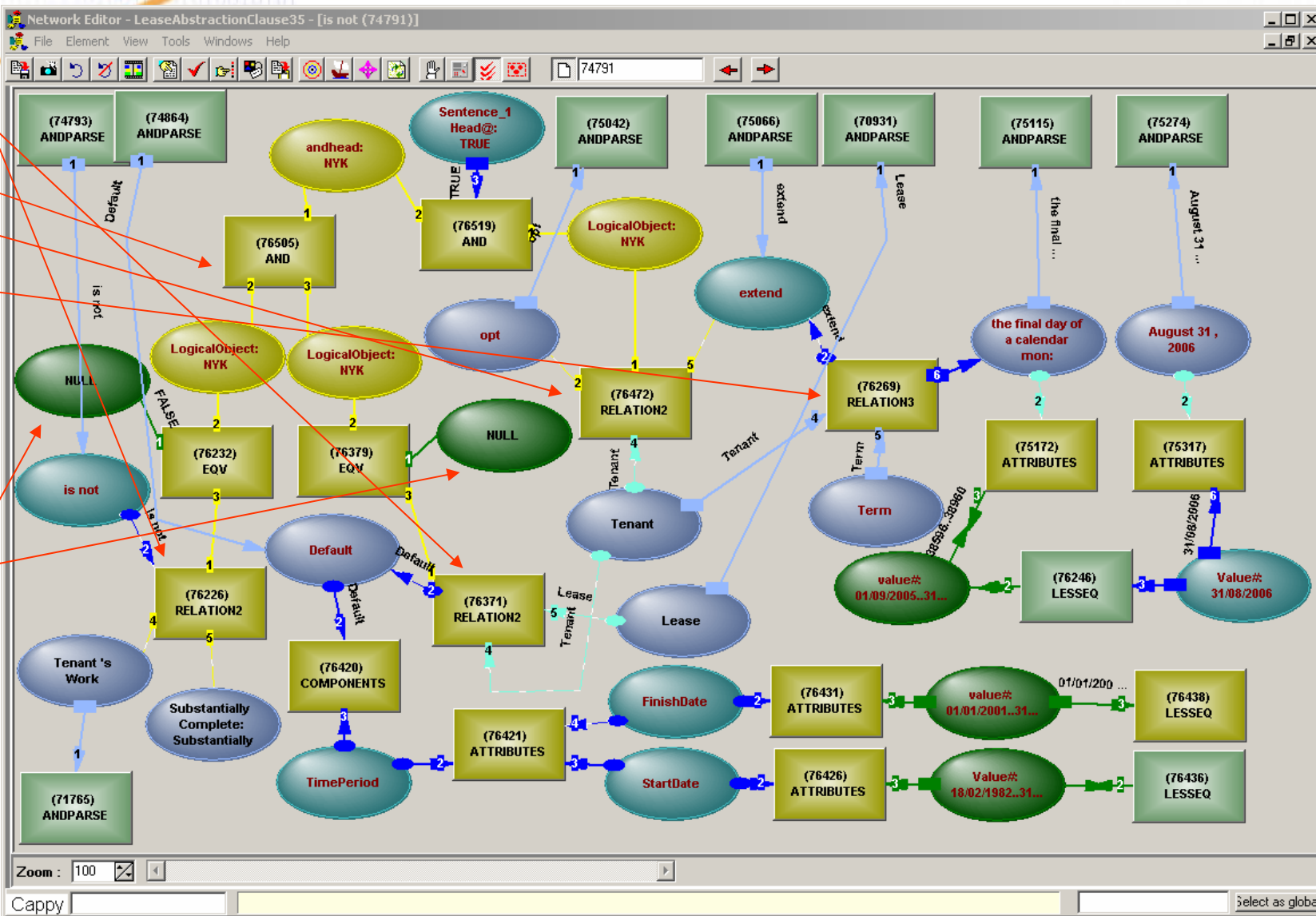
A closer look at the **finishDate** of the **occupy** relation. The date value of the **ImpliedOne** is linked both to an "and" objectgroup comprising August 31, 2005, and the date which is the **StartDate** of the **IS** relation of "Tenant's Work is Substantially complete". The **OBJECTTEST** operator created a **MIN** operator linking the three date values. Note that since the date is not known yet, its **value** is a range (green), which propagates all the way to the **occupy** relation.



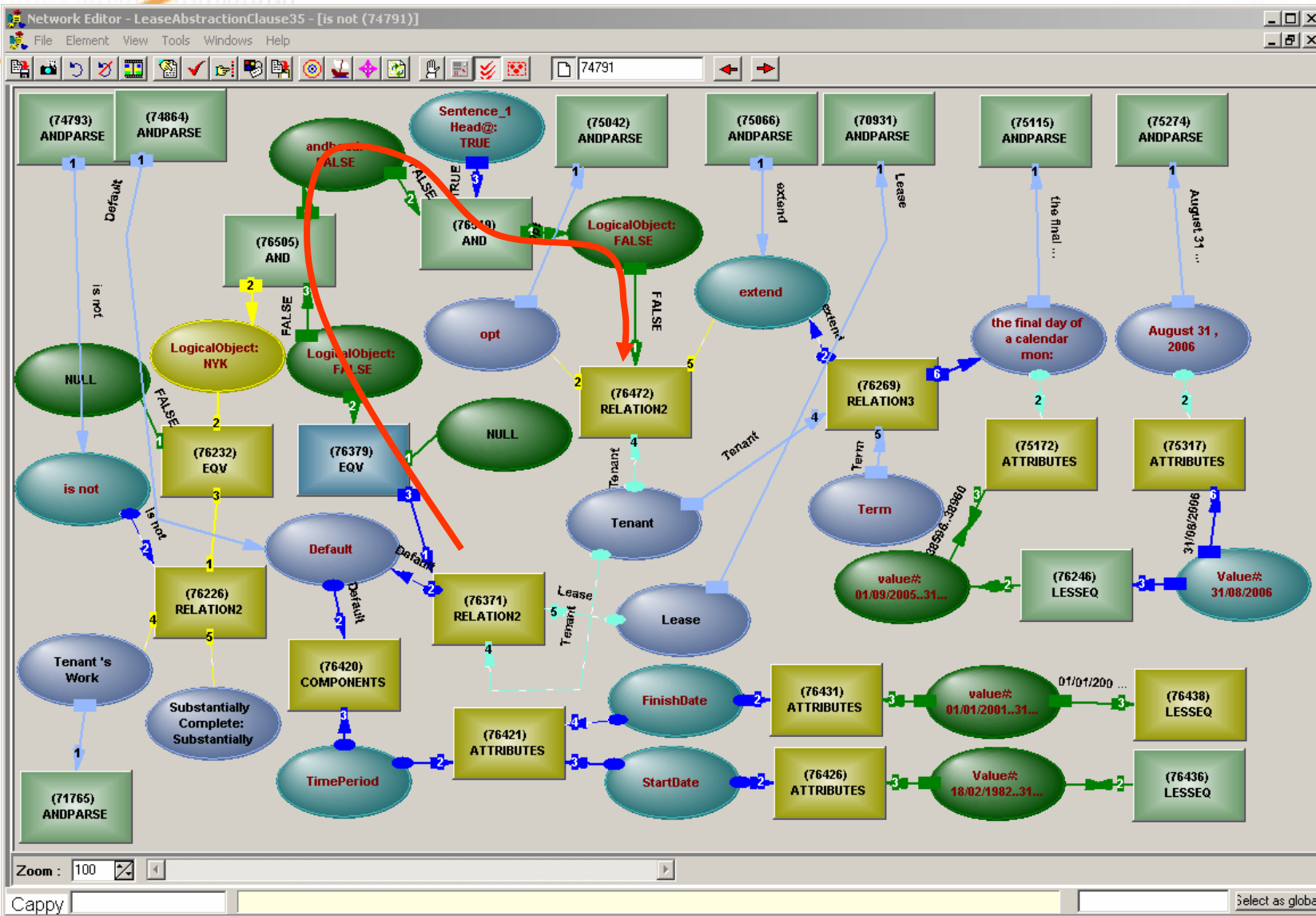
The system maintains a real time, multi-level dictionary for newly defined terms. The local dictionary terms are shown listed on the left. Initial Swing Space Term is defined in a(i) and is used several times later in the clause. The system creates an entry in the local dictionary, pointing to the Term token, linked through a ToBe (is) relation to the TimePeriod of occupy, which is the actual meaning of the newly defined term. Further references to Initial Swing Space Term will refer to the TimePeriod of Occupy.

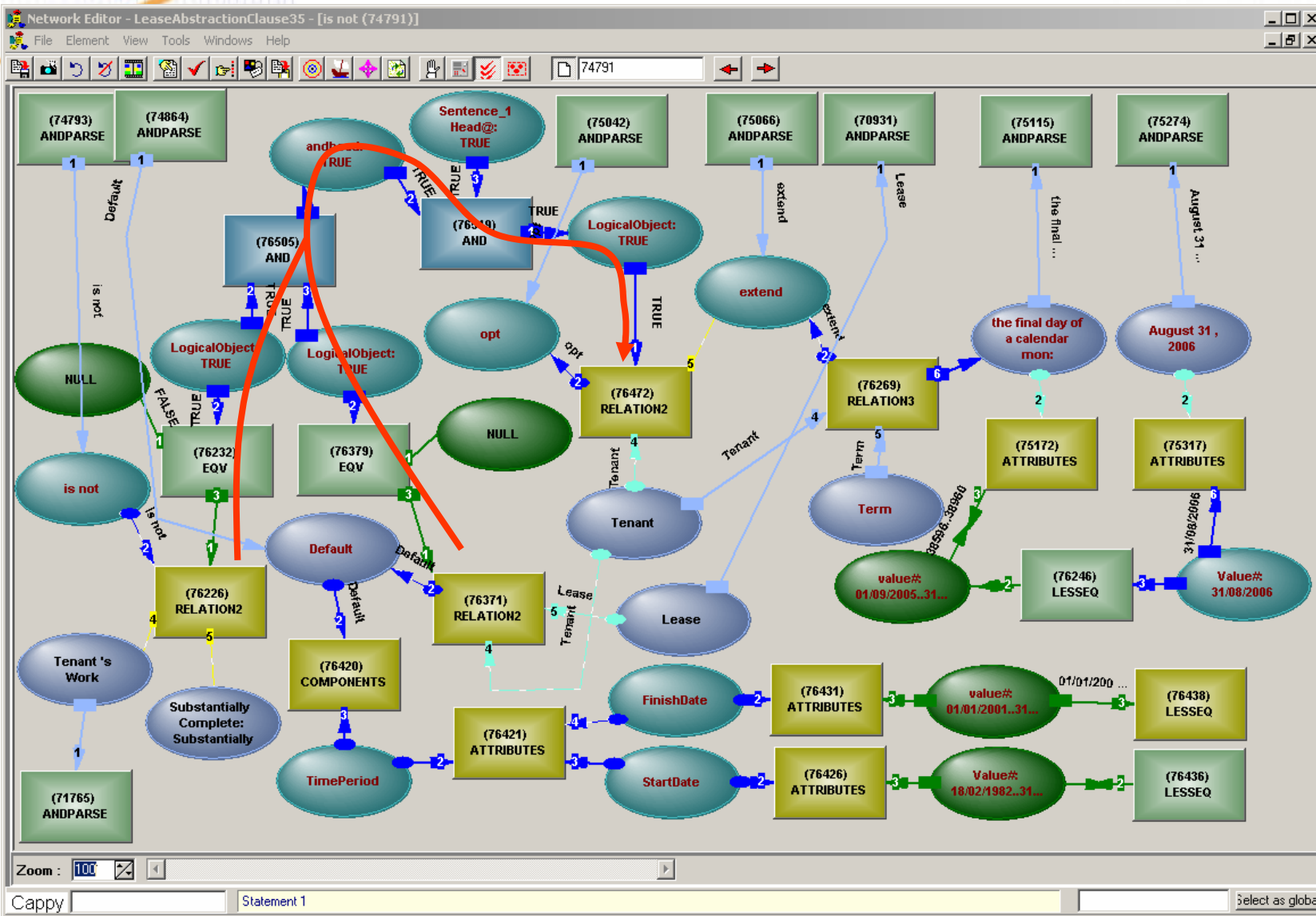


Section a(ii). Two relations, is not and Default, which logical control is AND'ed and controls an opt relation which object is an extend relation. The object of the extend is Term which is the Initial Swing Space Term (described in the previous slide). Note that the not's are represented by linking a False to the relation's logical control. This logical control structure implements IF..THEN. As the system is inherently simulative (What-If), next, we'll show how this works.

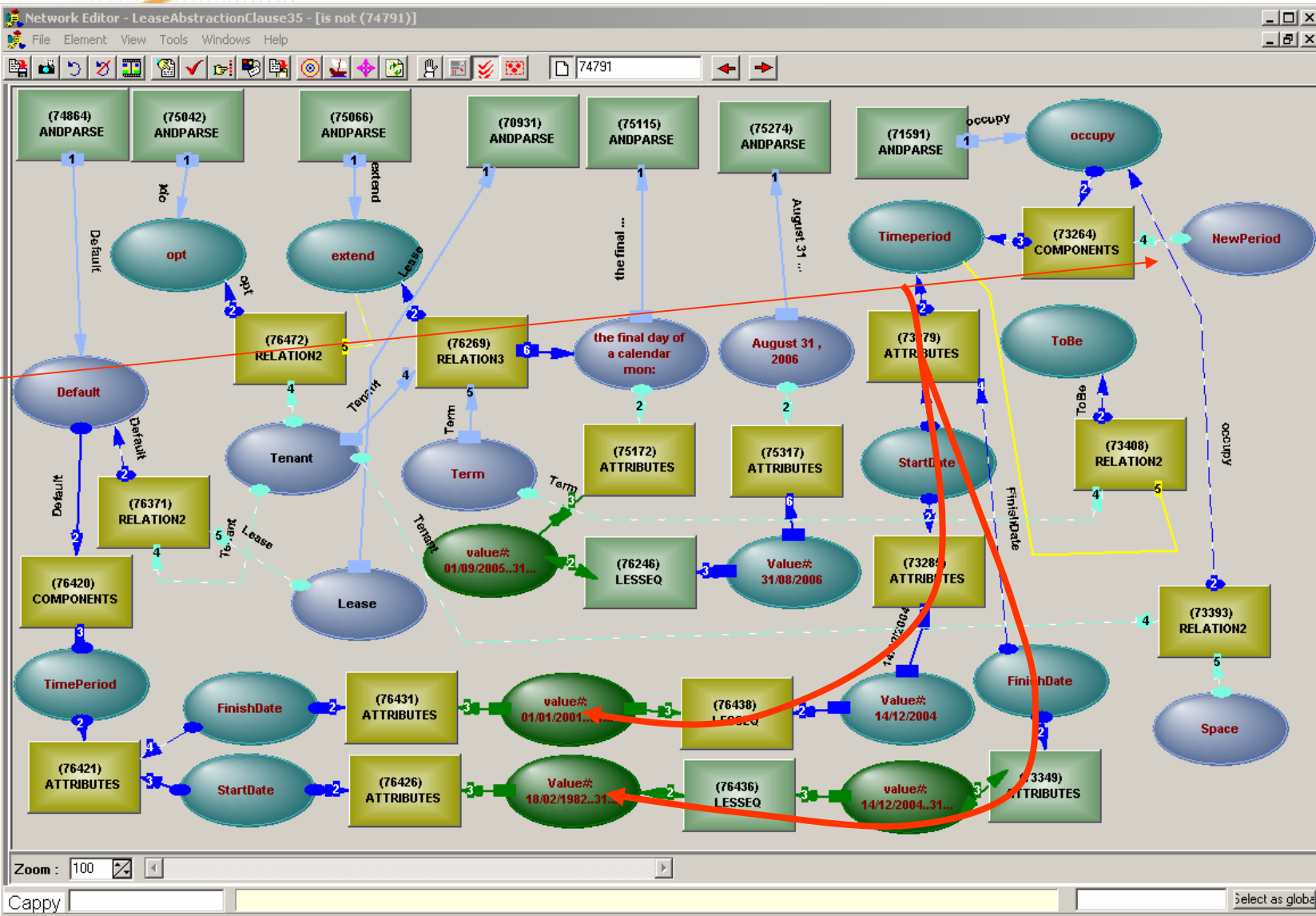


Say the **Default relation** is True (Tenant *is* in Lease). A **True** flowing from the relation is turned into **False**, which flows through the **AND**, all the way to the **opt relation**, meaning Tenant now does not have the option to extend the Initial Swing Space Term. (A closer look at the dates follows).



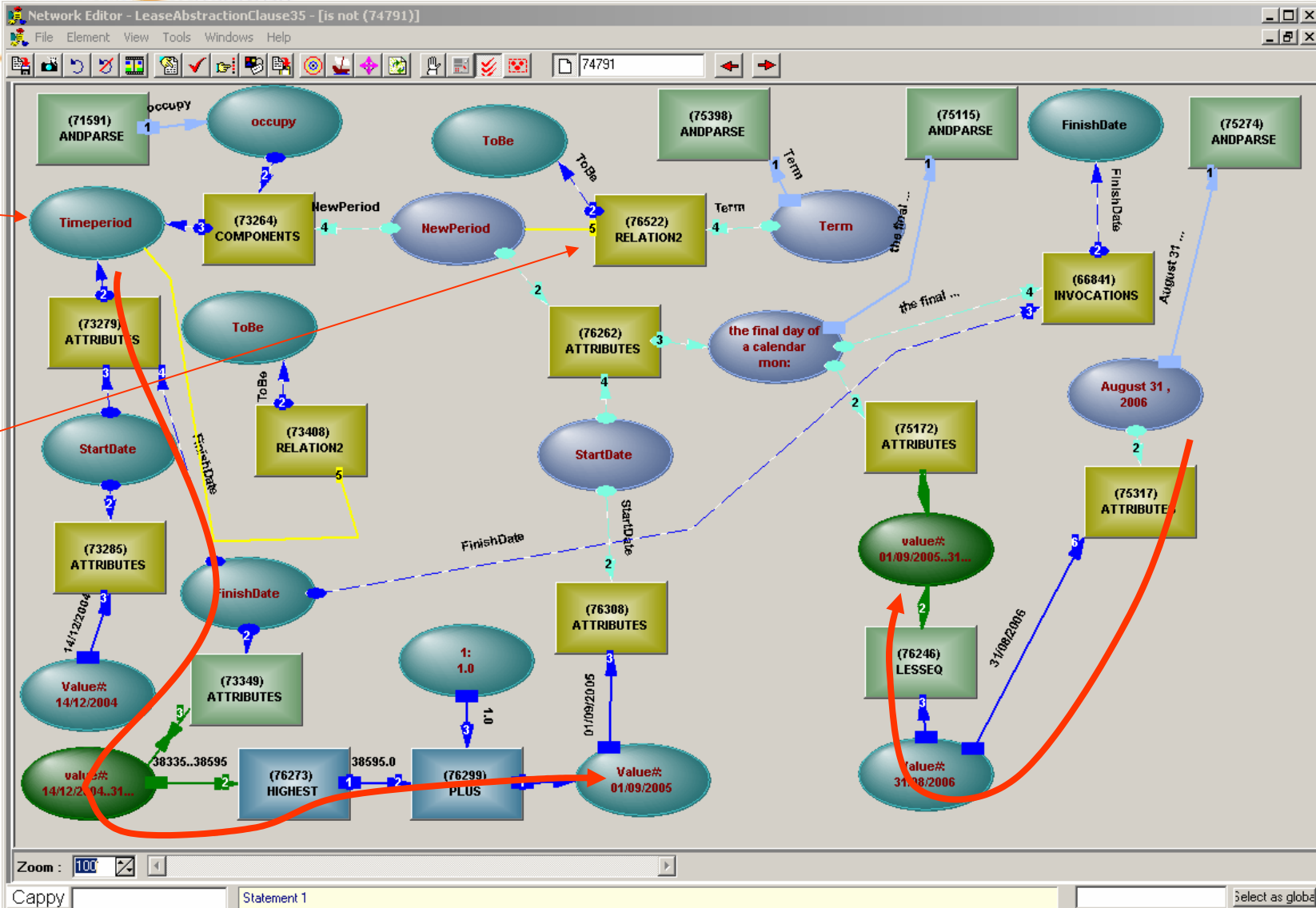


Say Tenant is not in Default, and Tenant's Work is not Substantially Complete. A False flows out of both relations' logical controls, turned by the logic into a True which flows into the opt relation, meaning Tenant does have the option to extend the Initial Swing Space Term.



A closer look at the dates. The **TimePeriod** of the **Default** relation gets its values from that of the **Initial Swing Space Term** (the **TimePeriod** of the **Occupy** relation).

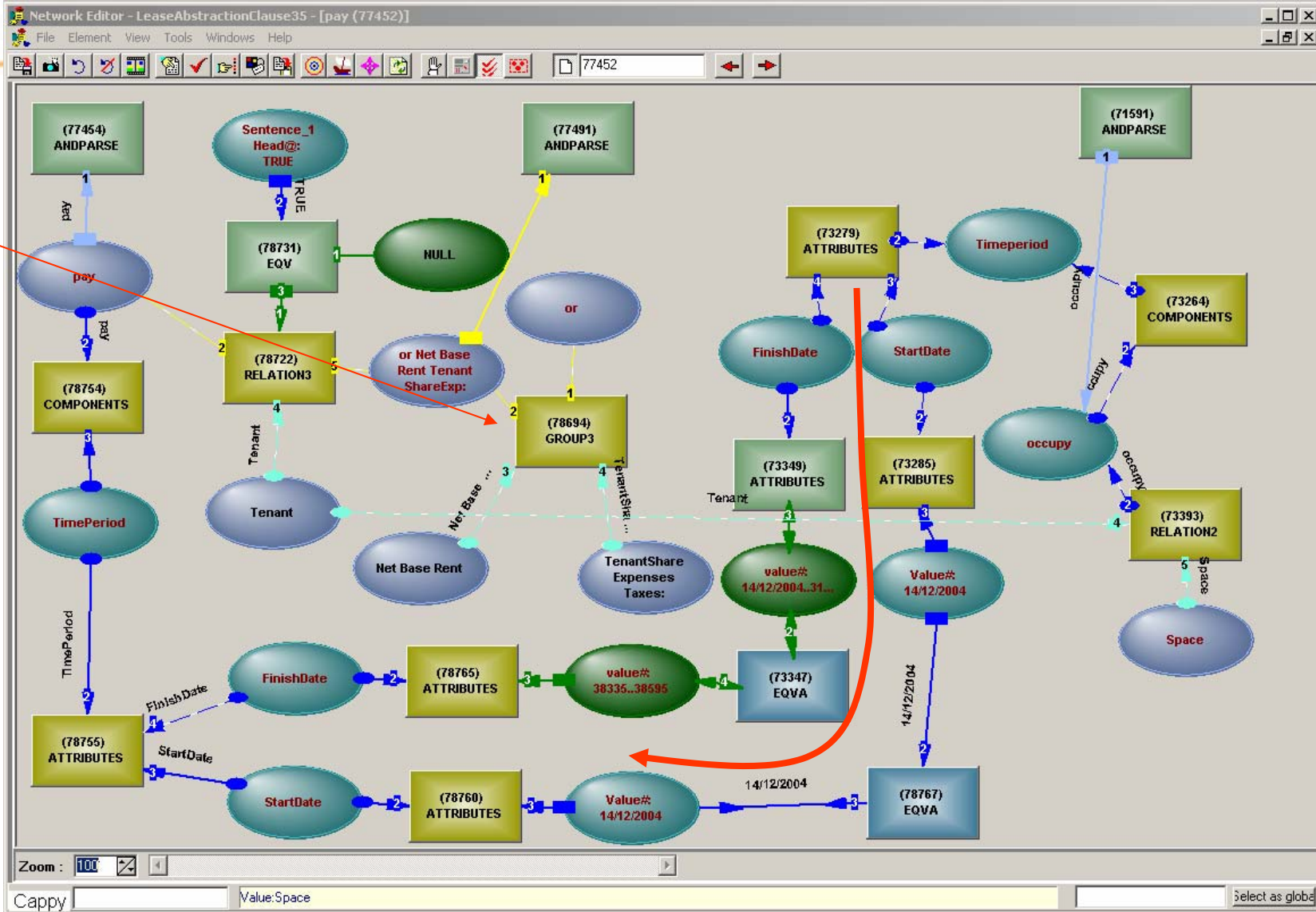
The system creates a new **TimePeriod**, with **Existence state of MayExist** (as it is still optional), unlike the original **TimePeriod**, which has **Existence state of DoesExist** (the **Initial Swing Space Term**). The new **TimePeriod** is linked to a new local dictionary defined term – **Extended Swing Space Term**. More in the next slide.



The new period, the **Extended Swing Space Period**, starts a day after the end of the **Initial Swing Space Term**, and ends at a final day of a month which is no later than **August 31, 2006**.

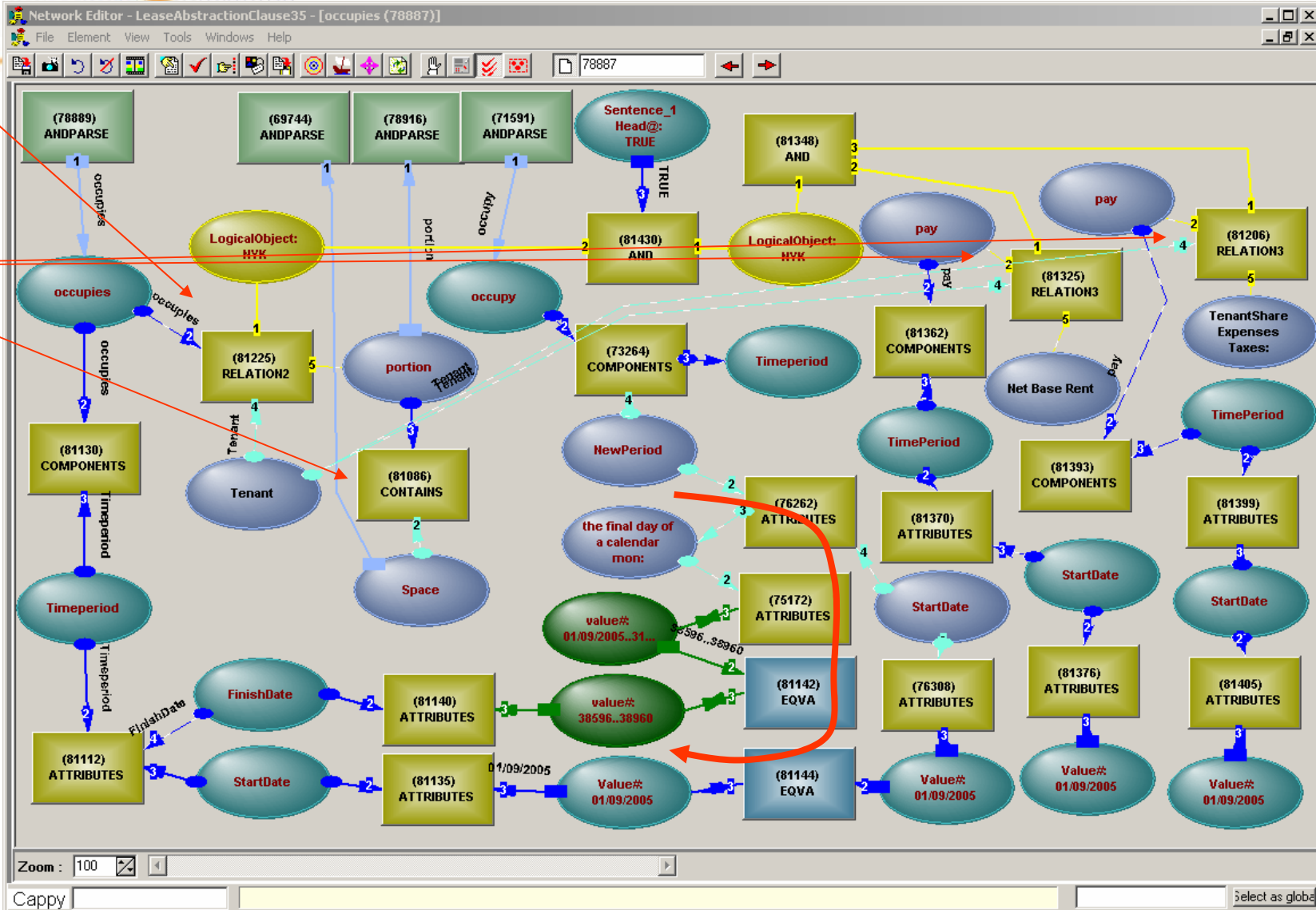
The new defined term is linked through a **ToBe** (is) relation to the new **Term** token that represents it in the local dictionary.



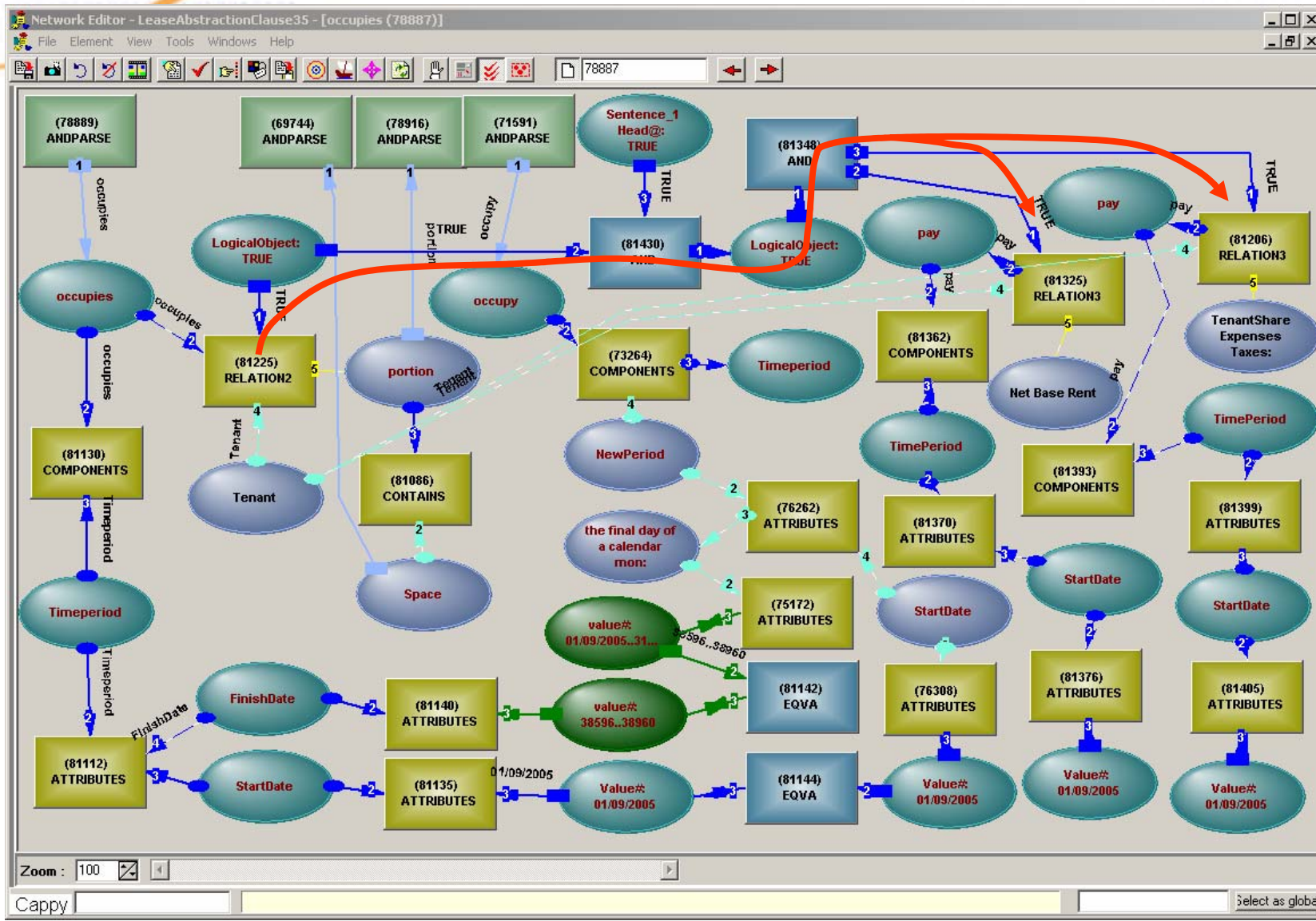


Section b(i). A pay relation with a negated control (meaning not pay), with Tenant as a subject, and an OR objectgroup, comprising the Rent and Taxes objects, as an object. The pay relation gets its TimePeriod from the Initial Swing Space Term (During the Initial Swing Space Term, Tenant shall ...).

Section b(ii). An occupies relation, with Tenant as a subject and portion as an object, and a logical control structure controlling 2 pay relations. Portion is part (contained in) Space, which is the local dictionary object for Swing Space. The occupy relation gets its TimePeriod from the Extended Swing Space Term – the new TimePeriod of the occupy relation. The StartDate of both pay relations is 01/09/2005.



Finally, say the **occupies** relation becomes **true** (Tenant *does* occupy a portion of the Swing Space during the Extended Swing Space Term). A **True** flows to both **pay** relations, meaning Tenant pays both Rent and Taxes commencing 01/09/2005.





The structures shown in previous slides were automatically built from this text.

Changes in the text result in changes to the structures, and changes in the lease abstract.

Reading of the text is faster than an attentive human reader, but here the structure is permanently captured, and can be used for

- validity checking
- answering questions
- simulation over the life of the lease.

With many leases in a large building, each with its own captured structure, it becomes easy to ask questions like “Does anyone have right of first offer on Suite 2403”

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b. Swing Space Rent.

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c. Surrender of Swing Space. Upon the expiration of the Initial Swing Space Term or the Extended Swing Space Term (as the case may be), Tenant shall surrender possession of the Swing Space to Landlord in accordance with the terms of Section 23 of this Lease.

The interface also features a "Lease Manager" sidebar on the left with a tree view of lease components. The "Swing Space" component is currently selected and highlighted in red. The "Current Paragraph" field at the bottom left is empty.