# Context Diagram

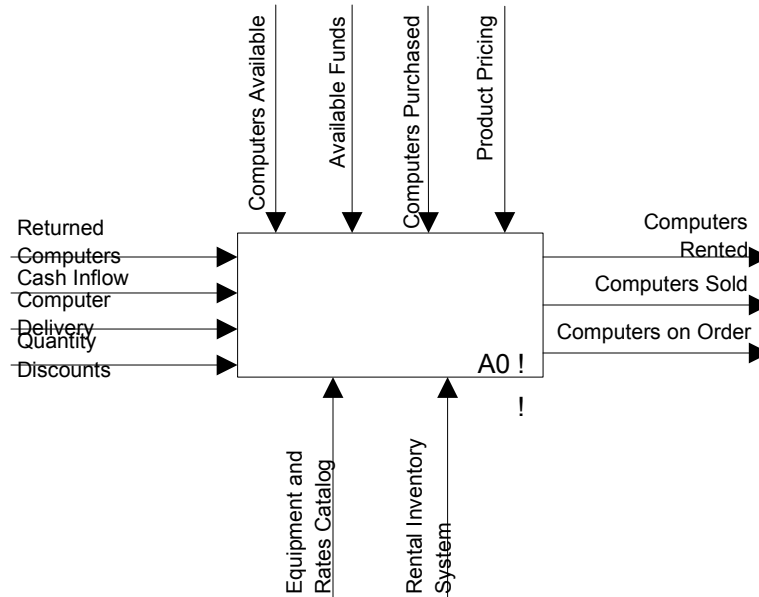## IDEF0 Models are composed of three types of diagrams:

**Context diagrams**
**Decomposition diagrams**
**Node trees**

The model starts with a single box, which represents the boundary of the system. This is called the "context diagram." Context diagrams have inputs on the left side, outputs on the right side, top arrows specifying controls, and bottom arrows representing mechanisms.

Control

Input

Output

A0 !

!
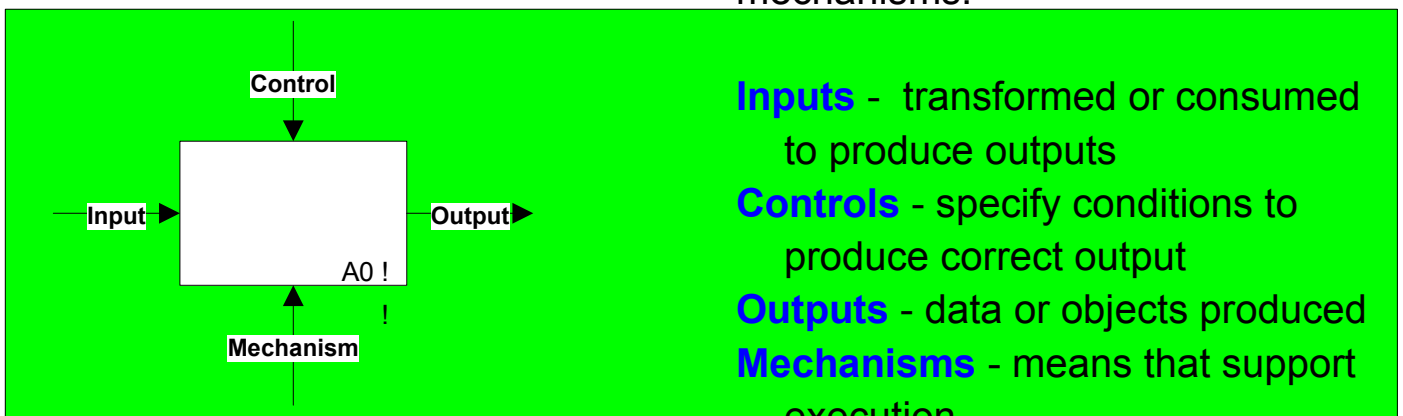
Mechanism

**Inputs** - transformed or consumed to produce outputs
**Controls** - specify conditions to produce correct output
**Outputs** - data or objects produced
**Mechanisms** - means that support execution

Computers Available

Available Funds

Computers Purchased

Product Pricing

Returned Computers

Cash Inflow

Computer Delivery

Quantity Discounts

Computers Rented

Computers Sold

Computers on Order

A0 !

!

Equipment and Rates Catalog

Rental Inventory System

| NODE: | TITLE: | | NO.: |
|---|---|---|---|

# Decomposition Diagram

**Decomposition diagrams** are essentially context diagrams that have been "decomposed" to reveal more detail. This example shows a decomposed version of the A0 context diagram from the previous page. Notice how the decomposition diagram contains much more information than the context diagram.
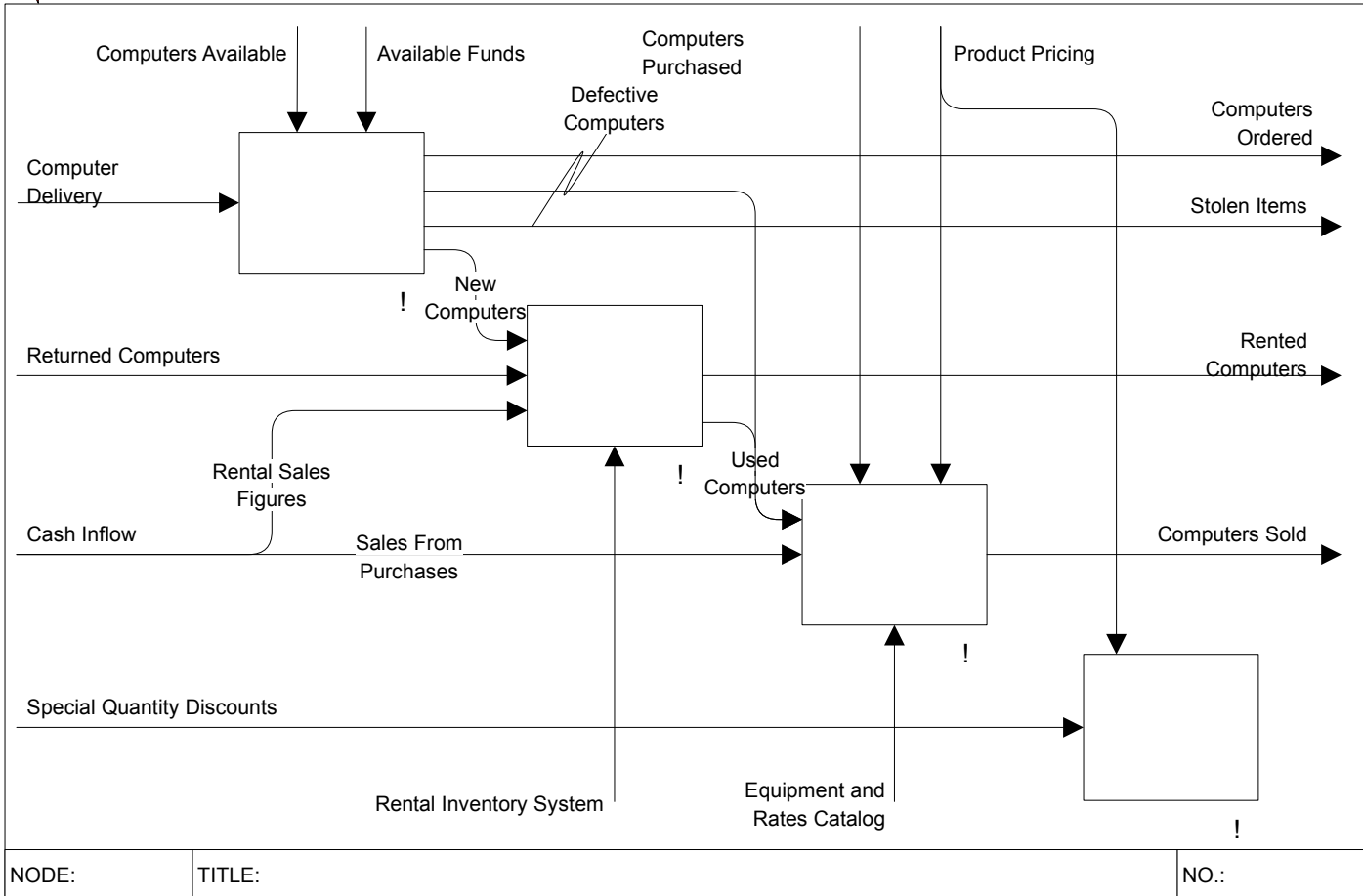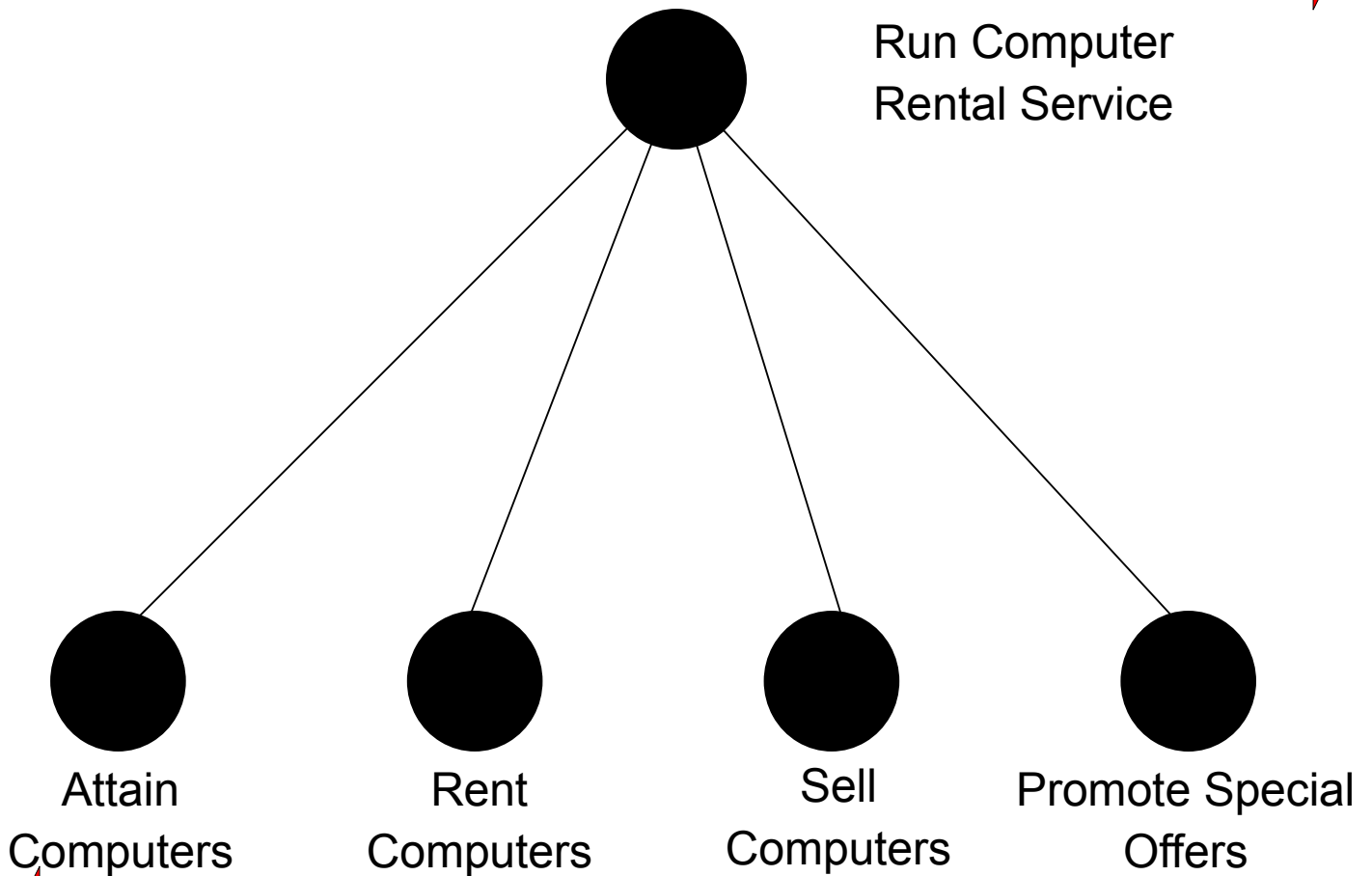
Computers Available    Available Funds    Computers Purchased    Product Pricing

Defective Computers

Computer Delivery

Computers Ordered

Stolen Items

New Computers

Returned Computers

Rented Computers

Rental Sales Figures

Used Computers

Cash Inflow

Sales From Purchases

Computers Sold

Special Quantity Discounts

Rental Inventory System

Equipment and Rates Catalog

NODE:     TITLE:     NO.:

# Node Tree Diagram

Run Computer
Rental Service

Attain
Computers

Rent
Computers

Sell
Computers

Promote Special
Offers

A **node tree** represents activities in an inverted tree structure.  They show how the activities of the model relate to each other in a top-down, hierarchical manner.

In essence, node trees show the entire system from a big picture perspective.  By eliminating detail, such as arrows, you can reprint all of the activities within a model in a single diagram.

How to create a **Context Diagram:**

Step 1:  Drag the ~~**Title Block** shape from the IDEF0 stencil.  Type the Node, Title,~~ Number and Page Offset.

Step 2:  Drag the **Activity Box** shape from the IDEF0 stencil, then enter the Process Name, Process ID, and Sub-diagram ID.

Step 3:  Drag the **1 Legged Connector** shape from the IDEF0 stencil and connect it to the Activity Box.  These connectors should always be horizontal or vertical to so as to maintain a consistent look for all IDEF0 diagrams.

Step 4:  Click the connectors and type the inputs, mechanisms, controls, and outputs or drag the **Text Block** shape from the IDEF0 stencil, then type the same information.

How to create a **Decomposition Diagram:**

Step 1: Drag the **Title Block** shape from the IDEF0 stencil.  Type the Node, Title, Number, and Page Offset.

Step 2:  Drag the appropriate number of **Activity Box** shapes corresponding to your context diagram.  Type the Process Name, Process ID, and Sub-diagram ID.

Step 3:  Drag the appropriate connectors **(IDEF0, Universal, or 1 Legged)**, connect the activity boxes and display other connections as necessary.

Step 4:  Select the **Text Tool**, then label the connectors with their appropriate names.

How to create a **Node Tree:**

Step 1:  Drag the appropriate number of **Node** shapes from the IDEF0 stencil.  Input the Diagram Node Number for each.

Step 2:  Select the **Text Tool** and label all nodes with their appropriate activity name.

Step 3:  Drag and drop the **Solid Connector** from the IDEF0 stencil and connect