

**United Nations
Proposed Financial Coding Structure**

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**United Nations
Financial Coding Structure**

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I. Background

The purpose of this paper is to present a recommended Financial Coding Structure for the United Nations' (UN) Integrated Management Information System (IMIS). For the purposes of this paper the use of the term United Nations or UN means the Secretariat and its component organizations as defined in the Charter of the United Nations and related resolutions of the General Assembly. We have defined the phrase "Financial Coding Structure" in the broadest sense and include an explanation of the ledger structure that will support financial reporting and transaction processing as well as a discussion of the chart of accounts. This approach is a bit unorthodox from the traditional discussion of the Chart of Accounts (COA) but because of the integral nature of the COA within the IMIS, we believe that this operational discussion will advance an understanding of the COA and the IMIS. We conclude with some recommendations for implementing the Financial Coding Structure and related policy issues.

A. The UN Financial System

As a truly international organization, whose members are the sovereign nation states of the world, the United Nations is not required to adopt the generally accepted accounting principles (GAAP) of any nation state. However, because it must report its financial affairs to an international community of external and internal users, the UN has decided to adopt the general principles of fund accounting recognized by most national governments. Therefore, the financial resources of the UN are planned and accounted for within a fund structure. A fund is an accounting concept used to segregate assets, liabilities, equities and operations to demonstrate that the resources of the fund have

been used exclusively for its designated purpose. The UN fund structure is significantly influenced by the UN's sources of financing.

The primary sources of financing for the UN are the assessed and voluntary contributions of National Governments and other International Organizations. While the UN does generate some revenue from sales and other services, this is insignificant relative to total revenue. As a public organization, equity financing is inappropriate and debt financing has been used in very limited instances. Table I presents the UN's "All Funds Statement of Income and Expenditure" for the Biennium ended 31 December 1989 to demonstrate the relationship of the UN's fund structure to its sources of financing. The IMIS will provide for the creation of this or any fund structure required by the UN.

1. Financing With regard to governmental financing the UN has four principal sources. A description of each of these sources follows as background to the discussion of some of the problems with existing systems and IMIS proposed solutions.

Assessments - generate approximately 80% of total UN revenue. Assessments are billings to members of the UN based upon the application of agreed upon assessment ratios to a previously adopted budget. Currently the assessment procedure is used to finance both the Regular budget and the Peacekeeping budgets. Assessment ratios are developed on the basis of a number of national economic characteristics and are approved by the General Assembly before implementation. The final assessments are adjusted to reflect staff assessments, the balance in the working capital fund and year end budgetary savings.

ANNEX I

UNITED NATIONS - ALL FUNDS a/

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I. Statement of income and expenditure for the biennium 1988-1989 ended 31 December 1989

(Millions of United States dollars)

	General Fund	Other General Fund related activities b/	Projects of a multi-year nature c/	Peace-keeping missions d/	Technical Co-operation activities	General trust funds	Special Accounts for Programme Support Costs	Funds held in-trust
Income								
Appropriations	1 772.3 e/	-	-	1 062.6 e/	-	-	-	-
Pledged contributions	-	-	-	74.2	75.0	401.4	-	-
Allocations and subventions	-	-	-	-	448.2	14.1	74.6 g/	0.1
Other income	2.5 f/	18.6	3.5	39.5	8.6	38.6	7.3	49.2
Total income	1 774.8	18.6	3.5	1 176.3 g/	531.8 g/	454.1	31.9	49.3
Expenditure	1 748.7	-	-	915.3 g/	530.0 g/	331.7 g/	70.4	38.3
Excess of income over expenditure for the above period	26.1	18.6	3.5	261.0	1.8	122.4	11.5	11.0
Add: Adjustments for prior period	-	-	-	1.1	-	-	0.1	-
Net excess of income over expenditure	26.1 e/	18.6	3.5	262.1 g/	1.8	122.4	11.6	11.0

II. Statement of assets and liabilities as at 31 December 1989

(Millions of United States dollars)

Assets								
Cash	1.4	48.6	18.9	342.1	110.4	227.5	31.4	39.8
Investments	-	-	-	-	-	2.9	-	2.4
Contributions unpaid	461.1 e/	0.3	-	620.3 e/	5.1	124.9	-	-
Accounts receivable	41.8	0.1	6.0	6.9	10.6	5.0	4.0	0.5
Unspent allocations	-	-	-	-	322.5	3.3	-	-
Due from other funds	21.8	170.4	5.2	1.1	5.7	4.7	1.5	1.2
Capital assets	-	261.3	-	-	-	-	-	-
Other assets	43.7 h/	48.1	7.4	71.1 i/	97.2	37.9	5.3	-
Total assets	567.0	528.8	37.5	1 041.5	551.5	384.2	42.2	43.9
Liabilities								
Accounts payable	29.0	-	0.3	339.3	76.7	1.5	1.0	1.5
Unliquidated obligations - Current year	63.9	-	0.1	173.6	68.4	16.0	1.3	-
Unliquidated obligations - prior years	-	-	-	20.8	-	-	-	-
Commitment for Future years	26.3	-	-	-	21.8	-	-	-
Due to Tax Equalization Fund	3.3	-	-	-	-	-	-	-
Due to other funds	189.8	4.4	2.4	8.8	2.5	2.0	1.6	0.1
Reserves	-	-	-	-	-	32.5	8.8	-
Bonds outstanding	-	-	-	-	-	-	-	-
Other liabilities	3.1	-	-	64.5	355.2	128.0	-	-
Total liabilities	305.4	4.4	2.8	607.0	524.6	180.0	12.7	1.6
Fund balance								
Balance available 1 January 1988	202.1	479.0	53.6	182.4 j/	25.1 o/	117.7 o/	19.0	30.9 p/
Add: Net excess of income over expenditure	26.1	18.6	3.5	262.1	1.8	122.4	11.6	11.0
Net transfer from reserves	(3.1)	-	-	-	-	(29.2)	(1.1)	0.4
Other credits(debits) to fund balance	36.5 k/	26.8 l/	(22.4) m/	(10.0) n/	-	(6.7)	-	-
Balance available 31 December 1989	261.6	524.4	34.7	434.5	26.9	204.2	29.5	42.3
Total liabilities and fund balance	567.0	528.8	37.5	1 041.5	551.5	384.2	42.2	43.9
Statements	I-III	IV VI VII VIII	V	IX-XVII	XVIII	XIX	XX	XXI

(Footnotes on following page.)

Voluntary Contributions - Voluntary contributions are represented by pledges of funding organizations. The pledges are usually restricted to a specific project or programme and usually have a specific duration. Unlike assessments, voluntary contributions are not a requirement of membership in the UN. They are usually solicited by programme managers at pledging conferences or offered by a government or funding agency to finance a project executed by the UN.

Technical Cooperation Financing - Technical cooperation funding is also a form of restricted financing. It is designated for a specific project but generally must be solicited from a funding agency established to finance technical cooperation projects. The principal technical cooperation agencies are the UN Development Programme (UNDP) and the UNFPA. Agencies like these provide funding for projects that are designed to achieve a specific objection or produce a specific output. When the UN accepts this type of funding, usually through its Department of Technical Co-operation and Development (DTCD), it assumes the role of an Executing Agency and is subject to all the reporting requirements of the funding agency. Very often technical cooperation funds are combined with pledges to finance a specific project.

Programme Support Charges - Programme support charges represent the fourth principal source of funding for the UN. These charges are applied to the expenditures of sponsored projects to recover the administrative overhead incurred by the UN in administering the project. The charges are based upon a recovery rate that is agreed upon by the UN and the funding agency before the project is initiated. During the Biennium ending December 31, 1989 programme support revenue amounted to 82 million dollars and represented 2% of total UN income.

Each of these sources of financing have reporting requirements and consequently represent a different type of Fund within the UN fund structure. In an attempt to accommodate these different reporting requirements the UN has developed a variety of automated and manual systems. Because these systems were developed at different times and based on different technologies they are not as integrated as the UN requires at this time. This lack of integration makes comprehensive reporting and financial management difficult. A principal objective of the IMIS financial coding structure is to provide a systems architecture that will facilitate efficient and timely accounting procedures while at the same time supporting the complex reporting requirements of the UN. In addition, because of the dynamic and diverse environment within which the UN operates the IMIS financial systems architecture must be technology independent.

2. Reporting Units Reporting units have not been recognized as an official entity within the existing UN financial system but they are an operational requirement and need to be recognized. Reporting units are independent legal entities that provide governance to various UN organizations in addition to the Secretariat. Thus, component organizations of the UN Secretariat, like UNEP, UNHCR, UNHCS, etc., have more than one reporting unit for which they prepare financial reports. These reports include both audited financial statements and budgets that require the approval of governing councils other than the Secretariat.

While reporting units may appear to be a source of funds they usually have the legal authority to authorize UN organizations to raise funds in addition to those authorized by the Secretariat (e.g. UNEP Fund or Habitat Foundation). These funds are budgeted and accounted for in documents other than those presented to the Secretariat. Consequently, this means that the affected organizations have a systems requirement that is broader than identifying another funding source and requires IMIS to offer alternative reporting functions. The absence of these functions in existing UN systems creates accounting and reporting problems for the affected organizations and can retard the timely production of financial information.

3. Reporting Requirements - Finally, the current UN financial system is influenced by the reporting requirements placed upon it. In general, reports are of four major types and are designed to satisfy a variety of internal and external users. While report data may be sorted and organized to satisfy the information requirements of a particular user, the principal types of financial reports include Financial, Budgetary, Project and Treasury.

Financial Reports - These reports are conventional financial statements and include some type of statement of financial position (i.e. Balance Sheet) and a statement of operations (i.e. Income Statement). The reports are usually prepared for a fund or group of funds and the operating statement reflects the change to fund balance for the reporting period. These statements are significant because they present the determination of fund balance and provide for the presentation of asset values. Assessed contributors have a special interest in the amount of fund balance because it directly affects the calculation of their

assessment in subsequent periods. Voluntary contributors and technical cooperation sponsors are particularly interested in asset values because they often have a residual interest in the assets at the end of the associated projects. These statements also support audit requirements and support the tracing of amounts in the financial statements to authorized transaction documents.

Budgetary Reports - Budgetary reports are used by managers to insure that the operation of their projects, programmes and organizations are adequately financed and remain within authorized funding limits. They usually take the form of an operating statement for a programme, project and/or an organization and their focus is a comparison of actual activity to budget. These reports allow managers to determine the availability of funds for individual activities or objects of expenditure so that the manager can make implementation decisions. They also provide transaction detail to determine the reasons for activity and the projection of future activity.

Project Reports - While project reports have a budget to actual framework similar to budgetary reports their exclusive focus is the project or group of projects and activities within the project. In addition projects can be distinguished from other financial reporting entities in that their fiscal period often begins and ends within the traditional fiscal year and their duration extends beyond fiscal years and a biennium. Project reports must also reflect output and manhour amounts. Even though some project data may be different in substance than other financial data it should be processed in a way that minimizes data entry and directly links non financial data to financial by project and eliminates the need for redundant data.

Treasury Reports - Finally, the UN, like all organizations, requires reports that allow it to manage its liquidity and control its cash. Unlike many organizations, however, the UN must manage its liquidity and manage its cash in dozens of currencies and within a dynamic currency market. These reports are of a cash flow and cash requirements nature. While the focus of treasury reports is the bank account the UN also has the requirement to report the cash position of each fund and this means that the cash position of the UN by bank account must be in balance with the cash position by fund. This dual reporting perspective demands efficient data entry and the avoidance of redundant data storage.

These four basic report types comprise the financial reporting framework of the United Nations. While there are many variations on these themes, each of the variations is a derivative of one of the four basic types. The current UN financial coding structure attempts to satisfy these reporting requirements in a variety of ways. A principal objective of IMIS will be to satisfy these requirements but in the most timely way possible and with a minimum of data entry and within a uniform data structure.

B. The Current Financial Coding Structure

1. Purpose - The current UN financial coding structure has evolved over the 40 year history of the organization. It has been adapted to a dynamic organization and has taken on the characteristics of the technology that was available as different components were implemented. Currently, the financial coding structure is a mixture of structures designed to satisfy the above-mentioned requirements and implemented in independent systems in New York and offices around the world. Many of these systems were developed with very specific objectives in mind and problems of integration were left to manual means.

2. Limitations - At UN headquarters there are essentially four financial management systems, each with a specifically focused coding structure. These systems and their respective coding structures or some variation are also operated in offices away from headquarters. They include:

The General Ledger - This system is designed to process financial transactions and produce a trial balance from which financial statements can be prepared. It is a batch system that relies on a fifteen character code to classify transactions in a fund accounting structure. The system provides for both general ledger and allotment accounts and within allotment accounts it organizes transactions by three distinct account types. (1= Programme Budget, 2= Misc., 3= Project Accounts)

The Budget System - The budget system is designed to prepare and administer the UN Regular/Programme budget. Its structure accommodates the UN's Programme structure and it provides for the development of a position (post) budget. Budgeted amounts are developed at standard rates and adjusted to take into consideration cost of living and other adjustment factors. Allotments are recorded and employment and promotions controlled by post.

The DTCD Project Management System - The Department of Technical Cooperation and Development (DTCD) administers a Project Management System (PMS) that is structured to monitor the financial and production activities of projects financed primarily by UNDP. This system provides for the establishment of projects and accepts batch input from the General Ledger system to update projects for financial activity.

The Treasury Information System (TIPS) - The fourth major system operated in New York is the TIPS and it is used to monitor cash activity around the world. The focus of this system is essentially a bank account. It is updated by manually entering cash receipt and disbursement transactions before they are reentered into the General Ledger system.

The objective of each of these systems is to satisfy one of the financial reporting requirements discussed in the previous section of this report, but none of them satisfy all of the requirements. The consequence is that financial data is stored in numerous locations. The same financial data is entered into more than one system. The various systems can offer conflicting statements with regard to the financial position and operations of the United Nations, and a timely, comprehensive report of UN financial affairs is almost impossible to prepare. The objective of the IMIS is to resolve these problems, but before it can, a financial coding structure that accommodates all of the financial

reporting requirements of the UN must be adopted. To insure a comprehensive presentation of financial activity, the financial coding structure must take each of these requirements into consideration. In addition, it must consider the opportunities presented by new technology currently available and that which might become available.

3. Technological Opportunities - Since the development of existing UN systems there have been dramatic developments in information technology. Of particular importance are advances that have been made in the areas of database and micro computer technology. Relational database technology provides the opportunity to store data independently of the application software that will use the data. This is quite different from the data storage techniques and structures that were available when existing systems were developed.

Existing UN applications unrealistically required the designer to imagine all possible uses of the data (i.e. screens and reports) and construct a data structure accordingly. In contrast, today's technology requires us to identify the essential characteristics of financial data and construct a design that accommodates this logical structure. As applications are developed and information is required, relational technology will accommodate the manipulation of the data to satisfy the requirements of the application. In addition the advent of powerful micro computers provides the technology required to manipulate the data without degrading overall system performance.

The architectures of the existing UN financial coding structures are incongruent and based on older technology. The proposed structure is designed to satisfy all of the above requirements in one uniform structure and provide for data independence. While the proposed structure provides for all of the essential characteristics of the existing structures, it does not replicate

them physically. To do so would lose the opportunity to take advantage of the newest technology and inhibit the use of future technology. We begin the presentation of our proposed structure with a discussion of the Chart of Accounts.

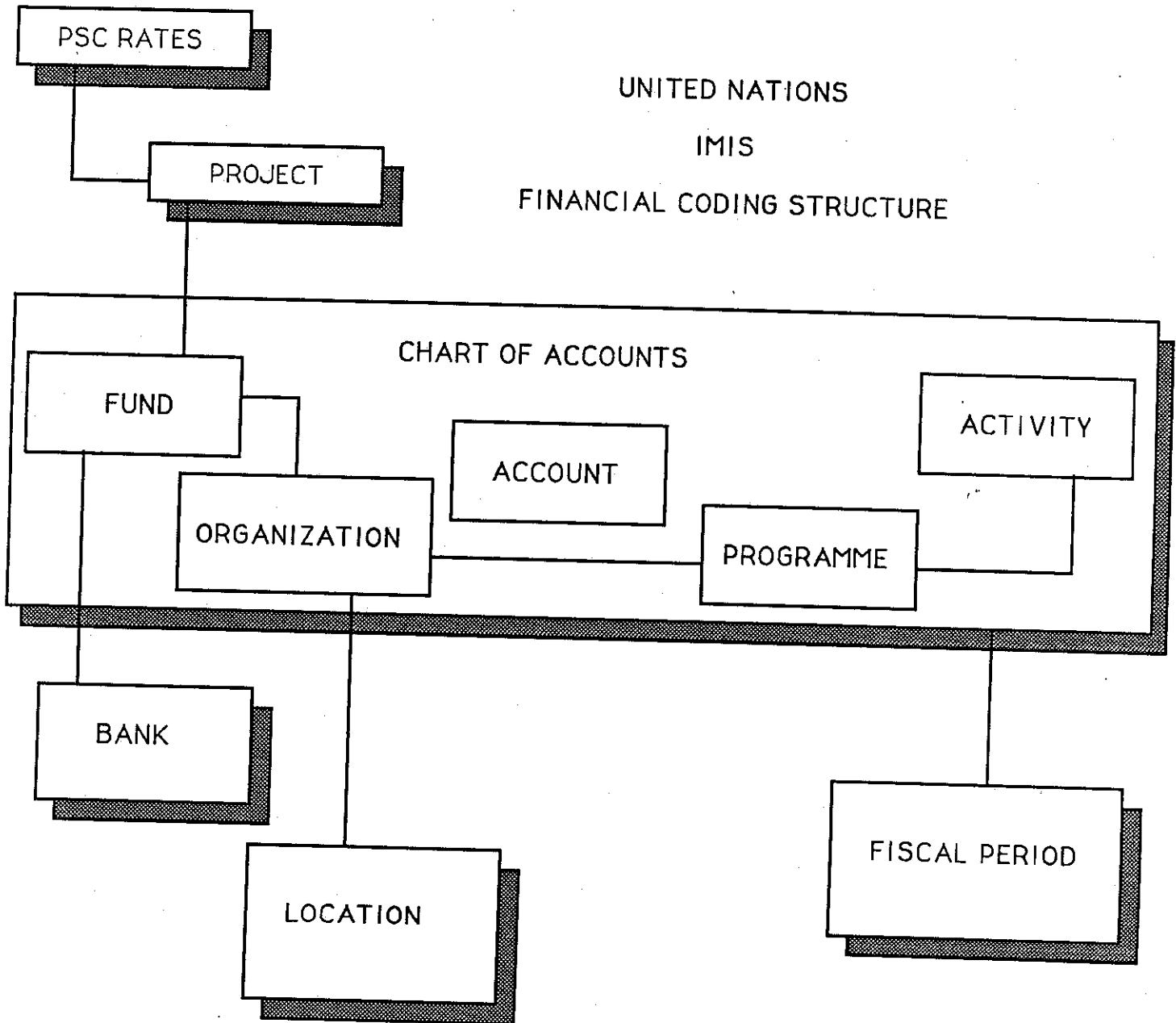
II. The Chart of Accounts

The Chart of Accounts provides the analytical framework within which financial decisions are made and controlled. Therefore it must be comprehensive and thorough but it must not retard transaction processing. In an interactive system like IMIS, accounting codes will be entered on source documents by end users. Therefore, the chart of accounts cannot intimidate non accountants with complexity or require extraordinary data entry. Each of these characteristics have been taken into consideration in the design of the COA. In addition, we have developed an architecture that is conducive to a variety of different data structures and technical platforms.

A. The Coding Block

The heart of the Chart of Accounts is the Coding Block. It includes the essential elements needed to record a financial transaction and from which other required elements can be inferred through system logic. The recommended coding block for the UN chart of accounts includes the following elements. Table II presents a graphic of the Chart of Accounts elements and their relationships. All transaction related documents will be coded with one or more of these elements, depending upon the complexity of the transaction.

UNITED NATIONS
IMIS
FINANCIAL CODING STRUCTURE



4. Programmes - Programmes are used to plan and control the use of financial resources employed to achieve a specific goal or purpose. Programmes may be financed by a variety of funds and executed by a number of organizations. The hierarchal structure of the programme decomposes it into subordinate units (.e.g. subprogrammes) that have a more specific objective designed to achieve some part of the goal of the superior programme. Examples of programmes include Clean Air, Reduction in Hostilities, etc.

5. Activities - are specific tasks undertaken to achieve the goals of a programme but may be the same for a variety of programmes.

6. Reporting Units - Reporting Units Are independent legal entities, created by the UN Charter or Resolutions, that are authorized to raise funds and authorize their use. In most cases, reporting units will require the submission and approval of a budget and financial statement by specialized organizations. Examples include UNEP, UNHCR, UNCHS, The Secretariat.

7. Other elements - Other elements for the coding block include projects, locations, banks and fiscal period. Projects are discrete groupings of resources employed to achieve a specific objective and usually for a specific duration. The duration of a project can commence in the middle of a fiscal period and transcend multiple fiscal periods. In most cases, projects have a work plan that is used to plan and control the level of effort of the manpower employed on the project. In many cases, projects have assets and liabilities and can be associated with a fund.

Locations are areas where resources are received or expended. In most cases, they can be associated with an organization and a duty station. Banks are accounts within a depository institution. They are used to arrange the receipt and disbursement of financial resources and in most cases can be associated with a fund. Fiscal Period is a duration of time used to plan and control the use of financial resources. Fiscal periods are used to match revenues and expenditures and determine the resulting equity position of a fund. These periods are either opened or closed and all financial transactions must be recorded within an open fiscal period.

B. Mutually Exclusive Tables.

Within the IMIS each of the elements of the Chart of Accounts will be maintained on a separate table. Authorized persons within the UN will maintain these tables giving system legality to the accounting elements and providing the tables needed to edit the validity of accounting codes entered on transaction documents. As a table, each element of the Chart of Accounts can exist independent of other elements. The combination of elements on transaction documents as they are processed will provide IMIS all the data needed to validate the accounting entry and to record a financial transaction. This combination of elements offers all the financial coding significance of the general ledger codes, allotment codes, programme budget codes, project codes and bank codes in the current UN financial systems.

By separating the maintenance of the chart of accounts from the storage of transactions, IMIS can provide for the maintenance of characteristics associated with the accounting element. Thus characteristics like name, effective date and rules data can be

stored on the accounting table. This will allow projects and peacekeeping missions to have accounting periods different than other UN financial entities.

Relationships between accounting elements and other IMIS entities can also be maintained. For instance, various programme support rates can be associated with funds, programmes or projects to facilitate the automatic calculation of programme support charges. In addition, each of the accounting elements can have its own hierarchal structure to support roll-up reporting and hierarchal budgeting.

C. Hierarchies

UN management, like that of other organizations, needs concise presentations of financial information to make meaningful decisions. In most cases management needs detailed data only for exceptions to the rule (e.g. expenditures exceed budget). Managers are usually interested in data at the level of their direct reports. Thus, the Secretary General might like to see reports summarized at the Undersecretary General level and the Undersecretary General, at the Assistant Secretary General level etc. Conventional financial management systems often satisfied this requirement by imbedding roll-up logic in the values of financial codes and required the report programs to interpret the values in the preparation of reports. This built inflexibility into the coding structure. In IMIS, hierarchal relationships can be developed by relating one table record to another and constructing hierarchies for each of the elements in the Chart of Accounts.

These hierarchal structures will be constructed within the IMIS chart of accounts tables as coding elements are maintained. Each

time an element is created, the user will place the element within a hierarchy by indicating the predecessor code. In addition, an associated hierarchy table will be maintained so that the system can determine the last code within the hierarchy. This means there can be an unlimited number of levels within each hierarchy. This approach relies on the relative positioning of codes to construct hierarchies and avoids the need to build intelligent numbers within the codes. The approach is more flexible than the traditional approach and it will facilitate roll-up budgeting and financial reporting. The following charts are examples of hierarchies that could be developed for funds, organizations, programmes and accounts.

III. Transaction Processing

Unlike current UN systems IMIS will provide for interactive transaction processing. This means that all documents processed by IMIS, that have a financial consequence (i.e. PO's, Invoices, Billings, etc.) will be edited on line and if all edits are passed they will be posted immediately to financial ledgers. The direct source of all financial transactions will be transaction documents. This process will allow IMIS to provide UN management with the most timely financial information possible. As documents are processed IMIS will be able to update budgetary balances and inform users of the availability of funds on-line. This feature will eliminate the need for managers to maintain individual accounting systems. In addition, encoded transaction documents will allow IMIS to record all the information necessary to satisfy financial, budgetary, project and cash reporting. All data can be captured from transaction documents.

A. Transaction Documents

Transaction documents represent administrative actions that have a financial consequence. Each of these documents will be associated with a transaction code and will contain all the data needed to construct a financial transaction and perform the required administrative action. The essential financial data that must be included on each transaction document includes:

- * The Document Number
- * The Transaction Amount
- * The Transaction Date
- * The Currency Code
- * The Accounting Codes

Documents can originate from a variety of IMIS applications. To facilitate accounting code validation and transaction processing, each document will provide for the entry of each of the chart of accounts codes in separate fields on the transaction document. For the purpose of discussion we will refer to this area of the transaction document as the coding block. The recording of account codes in separate fields will accommodate a very flexible storage architecture and facilitate powerful reporting capabilities by any combination of the accounting elements.

1. The Coding Block - The Coding Block includes fields for each of the elements in the chart of accounts. On each document these fields will be arranged as follows; and a transaction charged to Professional Salaries, in the Disbursements Unit and the Regular Budget Fund would be coded accordingly.

Period - Fund - Organ. - Account - Programme - Activity - Project

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The bank and location codes can be inferred from the essential elements. We will discuss "inference" in greater detail later in this report. The coding block can have multiple lines so the amount of the transaction can be distributed across many accounting combinations. Again, for discussion purposes we will refer to each combination of accounting elements as an accounting distribution. Each distribution will have an amount so that a completed coding block might look like the following:

United Nations
Chart of Accounts
Fund Hierarchy

Code	Group	SubGroup	Fund	Project	Description
UN	UN				General Fund
RB	UN	RB			Regular Budget
WC	UN	WC			Working Capital
CP	UN	CP			Capital Project
PK	PK				Peacekeeping
LB	PK	LB			Lebanon
II	PK	II			Iran-Iraq Observer
TC	TC				Technical Cooperation
CT	TC	CT			UNCTAD
P1	TC	CT	P1		Project-1
FR	TC	CT	P1	FR	Project-1 France
US	TC	CT	P1	US	Project-1 USA
BK	BK				Bank Fund

United Nations
Chart of Accounts
Organization Hierarchy

Code	Dept.	Office	Division	Unit	Description
D123	D123				Dept. of Admin. & Management
D456	D123	D456			Office of Under-Secretary
D457	D123	D456	D457		IMIS Project
D458	D123	D456	D458		Executive Office
D556	D123	D556			Office of Budget & Finance
D558	D123	D556	D558		Management & Control
D788	D123	D556	D558	D788	Contributions
D779	D123	D556	D558	D779	Insurance
D569	D123	D556	D569		Budget Division
D999	D123	D556	D569	D999	Programme Analysis
D888	D123	D556	D569	D888	Data Analysis
D777	D123	D556	D569	D777	Econ, Social & Human Rights
D000	D123	D556	D000		Accounts
D001	D123	D556	D000	D001	Central Accounts
D002	D123	D556	D000	D002	Trust Fund & Tech. Co-op.
D003	D123	D556	D000	D003	Operational Accounts
D004	D123	D556	D000	D004	Disbursements

United Nations
Chart of Accounts
Account Hiearrchy

Code	Prime	Subacct	Object	Subobj.	Description
A100	A100				Cash
A101	A100	A101			Cash Control
A102	A100	A102			Chemical Bank
A103	A100	A103			Lloyds Bank
A104	A100	A104			Imprest Cash
AAAA	A100	A104	AAAA		TCD Projects
A200	A200				Accounts Payable
A201	A200	A201			Staff AP
BBBB	A200	A201	BBBB		Payroll
CCCC	A200	A201	CCCC		Salary Assignment
A202	A200	A202			Vendors AP
DDDD	A200	A202	DDDD		Travel Agencies
EEEE	A200	A202	EEEE		Insurance Co.
A300	A300				Fund Balance
A301	A300	A301			Unreserved
A302	A300	A302			Accumulated Income
A303	A300	A303			Accumulated Expenditures
A400	A400				Income
A401	A400	A401			Contributions
FFFF	A400	A401	FFFF		Assessed Contributions
GGGG	A400	A401	GGGG		Pledged Contributions
A500	A500				Expenditures
A510	A500	A510			Salaries
A511	A500	A510	A511		Professional
A512	A500	A510	A512		General Services
A520	A500	A520			Travel
A521	A500	A520	A521		Official Travel
A52A	A500	A520	A521	A52A	Authorized
A52B	A500	A520	A521	A52B	Unauthorized

Ln	Per.	Fund	Organ	Acct.	Prog.	Act	Project	Amount
1	90	RB	D888	A52A	3000	500	200	\$100.00
2	90	RB	D888	A52A	4000	500	200	\$200.00
3	90	LB	D004	A52B	3000	600	300	\$500.00

As data is entered in each of the coding block fields the IMIS will compare the value entered with values on the respective Chart of Accounts table and insure that the entered value is valid and is available for the accounting period on the transaction.

2. Data Entry - The number of positions needed to identify each of the coding elements can be defined at a later date. However, the complexity of UN accounting could require significant data entry work if every field needed to be manually entered. To avoid this manual effort IMIS will provide for the association of accounting elements by allowing the user to relate one table value to another when the Chart of Accounts tables are maintained. Therefore, the Fund table will provide for the entry of associated banks, organizations, projects or programmes. This will mean that the entry of only the fund on the transaction document will allow IMIS to infer the associated values and include them on the transaction without any additional manual entry by the user. Alternatively, the Organization table could be used to infer the fund, project or programme. Accounting personnel will maintain these associations so that end users will be required to enter a minimum amount of account coding. The most efficient relationships will be developed during the

development of the actual IMIS chart of accounts tables. An example of inferred coding for a cash disbursement transaction follows on the next page.

In most cases users will be processing expenditure related transactions (i.e. requisitions, purchase orders, invoices, etc.) and they will be aware of the allotment accounts they want to charge. IMIS will allow them to enter some portion of the allotment code and it will infer the remaining parts. In addition the budget for each allotment will be stored by an accounting distribution and users will be allowed to query the available balance of an allotment as they enter transactions to insure the accuracy of the codes they are using. IMIS will also provide for a pop-up listing of legitimate values for each of the accounting elements if requested by the user.

3. Security - IMIS security will be discussed in a specific paper to be developed after all application requirements have been identified. At this time we will simply say that within the IMIS, financial transactions will be manifested as screens. Therefore, just as a manual financial system would require the proper authorization of a transaction, the IMIS will insure that a user is authorized to execute a transaction (i.e. screen) before it will accept any data from the user. Every user must be authorized to use a screen in a query and/or update mode before the system will execute the screen. In addition, fields on a screen may also be secured by users so that, for example, only authorized personnel will be able to execute sufficient funds overrides. Each of these transaction security rules will be stored in security tables that will conform to the overall security requirements of the IMIS.

B. Transaction Editing

Each transaction, regardless of origin, will be subjected to a series of edits to insure its validity before it can be recorded on ledger files. These edits will be included for every document that executes a financial transaction and will be performed interactively. The user will be informed immediately if a transaction has failed one or more of the following edits.

1. Transaction Date - Every document that has a financial impact must contain a transaction date. Dates can vary by line item so that the amount of the document can be distributed across multiple fiscal periods where required. As transactions are processed IMIS will read the fiscal period table for the most recent open period. If the transaction date is equal to or greater than the start date for this fiscal period, IMIS will accept the transaction. Fiscal periods will be marked closed after the periodic closing process for that period has been successfully executed.

2. Code Validation - As indicated above, each of the accounting code elements will be compared to codes on the chart of accounts tables. If one of these codes cannot be found or if the transaction date is beyond the range of the effective and termination dates for the same code on the table, the user will be informed immediately. At that time, the user will have the ability to change the coded entries.

3. Currency Conversion - The budgets of the United Nations are denominated in the official reporting currency. However, transactions can be processed in a variety of currencies. Therefore, each transaction will contain a currency code to indicate the currency within which the transaction is denominated. Using this currency code, the IMIS will read the exchange rate table and find the most recent conversion ratio.

This ratio will be applied to the amount of the transaction to convert the transaction amount to the reporting amount.

In addition to the reporting currency, duty stations around the world utilize an operating currency. This is usually the currency of the country within which the duty station is located. Using the organization code on input, the IMIS will read the organization table and get the duty station code and using this code it will read the duty station table and get the associated currency code. This code will be used to read the currency table and perform the operating currency conversion, the result of which will be stored in the operating currency amount field on the transaction document.

4. Sufficient Funds - Because the United Nations employs a fund accounting methodology, the budget is an integral part of the financial management and reporting system. Consequently, all expenditure related transactions (e.g. obligations, invoices) must pass a sufficient funds edit.

Budgets will be stored on the operating ledger by accounting distribution (i.e. allotment account). As expenditure related transactions are processed, IMIS will read this ledger and compare the amount of the transaction to the available balance amount on the operating ledger. If the amount of the transaction is greater than the available balance, the user will be informed immediately. At that time, he will have two alternatives. He can change the amount on the document or he can override the edit if he has the security clearance to do so. When the transaction is accepted one of the expenditure related fields on the operating ledger will be updated by the amount of the transaction. This update will provide an accurate available balance for the next transaction coded to the same accounting distribution.

5. Suspended Transactions - If any transaction fails one or more of the above mentioned edits the IMIS will not update the financial ledgers. However, the failure may only be temporary until a correction is made. It would be inefficient to completely reject the transaction and make the user verify all the data when the correction is available. Therefore, the IMIS will write the transaction to the data base but it will mark it as a suspended transaction. In this way, the integrity of the ledgers will be maintained and the user can use suspense reports and screens to manage the correction of suspended transactions.

C. Accounting Rules

All financial systems, manual and automated, have accounting rules. These rules provide for the posting to ledgers (final books of entry in a manual world) that are created by a particular transaction. Depending upon the type of transaction, the ledgers and fields on the ledgers will be updated differently.

Early automated systems imbedded these rules into the program code, and, consequently, a coding change was required if a rule change or a new rule was required. This increased the operational expense of the accounting system. IMIS will avoid this problem and enhance the utility of the accounting system by recording these rules in a system table that can be updated by accounting personnel. This approach will allow users to add new accounting rules as they become necessary or to change old rules without requiring a programming change. In addition, this approach will facilitate the interactive processing of accounting transactions from all IMIS applications.

Because the IMIS will integrate administrative functions that heretofore operated independent of each other and because it will provide for the interactive integration of these functions, the IMIS accounting rules table provides a uniform approach for the establishment and maintenance of accounting rules associated with all administrative functions. Once the rule for an obligation transaction is created it can be associated with any document that creates an obligation (e.g. Purchase Order, MOD, etc.) In the event a rule changes, accounting personnel will be able to make one change to the rules table and every document that utilizes the affected rule will automatically have its accounting changed without a program coding change. If these rules were imbedded in the online programs behind each document screen, IMIS would provide for interactive processing but it would create a maintenance nightmare when a rule changed and the programs needed to be modified for each document affected by the change. Transaction codes will provide the link between accounting rules and administrative documents.

1. Transaction Codes - Accounting rules will be maintained by transaction codes, and each administrative document will be associated with a transaction code. As documents are processed, IMIS will read the Accounting Rules table and determine the ledgers to be updated for that document. In the case of a simple transaction, this may only require an update of the general ledger. However, a complex transaction may require the update of many ledgers. In addition, accounting rules will provide for offsetting entries where required.

2. Single sided entries - To increase the timeliness of financial reporting, IMIS will record transactions as documents are entered. This means that IMIS will not wait until documents are passed to the accounting office to account for them. At the same time, IMIS will not expect nonaccounting personnel to understand double entry bookkeeping to process an administrative

document. IMIS must be capable of inferring the other side of a one-sided entry recorded by administrative personnel. Again the transaction code, in conjunction with the accounting rules can accomplish this requirement.

The Accounting Rules table will provide for the maintenance of account numbers for the general ledger by transaction code. For example, if an invoice is entered the user will only be required to enter the expenditure account to be charged. Using the invoice transaction code, IMIS will read the accounting rule table and find the associated accounts payable account to be credited. In addition, if the UN wishes to have special accounts receivable or payable accounts for individual customers or vendors, IMIS can use the customer or vendor tables, relating the customer/vendor number to the individual receivable or payable account to be charged or credited. In the case of receivables, this will satisfy the requirement for individual accounts for countries, staff members, agencies and others. Because of the hierarchy within the account structure, these accounts can be aggregated into the accounts receivable account for financial reports.

Accounting rules will equip IMIS with significant flexibility; any transaction can be customized using this facility. Because of the importance of certain transactions within the UN system, we must devote special attention to the following.

3. Cash - Cash transactions, both receipts and disbursements, are especially important because they affect the UN's ability to ascertain its liquidity and because, in the older UN system, they have created significant work to settle interfund balances before closing. This latter requirement has extended the closing process and retarded the preparation of timely financial statements. IMIS proposes to address this problem by clearing all cash transactions through a special bank fund and

avoiding the need for interfund cash transactions. IMIS will perform this function as follows:

All cash receipts and disbursement transactions will be identified by IMIS by appropriate transaction codes and accounting rules. These rules will provide for posting to the bank fund in addition to operating funds as receipt and disbursement transactions are processed. The bank fund will serve as a UN banker and will keep track of all cash balances by bank account regardless of the operating fund within which the transaction originated.

While the bank fund will maintain the consolidated position of each bank account, each operating fund will maintain that fund's equity position in the associated bank account within the bank fund. Because these respective positions will be maintained using the transaction codes on receipt and disbursement transactions, IMIS will be able to present the cash position of any fund and the consolidated position of any bank account at any time. It will also prevent the need for month end cash settlements because no one operating fund will serve as the bank fund.

Settlements will only be required when there is an interfund transaction between two funds that operate out to two different bank accounts. But because IMIS will allow the UN to present the cash equity position of any operating fund at any time, this should reduce the need for a multiplicity of bank accounts.

Many of these operational decisions can be made when IMIS is implemented, but at this time we would also recommend that all interfund transactions be accounted for in "transfer" accounts. These accounts can be segregated from revenue and expenditure accounts when operating statements are prepared. This will avoid an overstatement of revenue and expenditures for the amount of interfund transfers-in and transfers-out. (See Appendix-A)

4. IOV transactions - Because the UN is an international organization and is required to maintain operationally independent financial systems at its various duty stations, it has developed the Interoffice Voucher (IOV) to account for transactions between offices that are financed from the same fund. At the beginning of each fiscal period, each of these offices is assigned its asset and liability balances and the residual is considered its share of the general fund balance or equity. This residual amount is called the beginning IOV balance.

During the course of the fiscal period offices away from headquarters (HQ) and HQ engage in transactions that would require a cash settlement if they treated each other as external organizations. However, because each organization shares a portion of the same fund equity, the transactions are cleared through the respective IOV accounts. For instance, when Geneva authorizes HQ to execute a transaction on its behalf it records an obligation on its books and issues an authorizing cable to HQ. When HQ receives the cable it does not record a transaction but when it executes the associated cash transaction it debits Geneva's IOV account and credits cash.. It then forwards an IOV to Geneva. This IOV is recorded in Geneva as a debit to the appropriate expenditure account and a credit to the HQ IOV account. In addition, Geneva liquidates the associated obligation.

At the end of the accounting period the balance in the IOV account by office in HQ's books should equal the balance in the HQ IOV account in the books of the offices away from HQ. At that time, the offices away from HQ can close their operating accounts to the IOV account, preparing them for consolidation with the HQ. When consolidation occurs the respective IOV balances cancel each other leaving the consolidated ending fund balance for the general fund. (See Appendix-B)

IOV transactions currently cause problems in the UN system because they require the international transmission of paper and because they require the matching of the IOV with the authorizing cable to insure that the correct expenditure account is charged and the associated obligation is liquidated. The IMIS will address these problems by providing for a transaction code and associated rules for IOV transactions. These rules will distinguish between "outgoing" (obligating) and "incoming" (expenditure) IOVs on the same IOV transaction document. In addition the IMIS will provide for a queuing process that will transmit outgoing IOVs to a queue by duty station. Each duty station will be capable of dialing up HQ and sending IOV's to be processed. This facility will reduce the delays and errors that are inherent in a manual process and should expedite the processing of IOVs and the preparation of financial reports.

5. Receivables and Payables - The IMIS will provide for transaction codes that automatically process receivable and payable transactions. These transactions may be entered directly or they may be generated by other IMIS modules. In addition to conventional transaction data, these particular transactions will also include codes that uniquely identifying the vendor, customer, member state or staff member associated with the transaction. These codes will facilitate the maintenance of receivable and payable ledgers by individual.

As associated payments are made or received, the payable and receivable records will be updated via the transaction code and associated accounting rules. Because these receivable and payable transaction codes will be generated by other IMIS modules (i.e. payroll) they will form the foundation for the preparation of the Personal Accounts reports. These ledgers will also provide the foundation for providing timely reports regarding the status of Member State accounts for all sources of funds (i.e. Assessments, Pledges, etc.). Reports can be presented on-line or in hard copy.

All payable and receivable records will be associated with the original transaction and these transactions will be denominated in the original currency. This means that as the receivable and/or payable transaction is liquidated it will reference the original transaction to determine the difference in exchange rates and calculate the gain or loss on currency translation. At that time the IMIS will be able to generate a general journal voucher recording the gain or loss transaction associated with the liquidation. The account to be updated for the gain or loss will be maintained on the accounting rules table so that the UN can decide the appropriate accounting on an as needed basis.

While the IMIS receivable/payable functions will enhance cash management, it will also require the UN to review its existing policies regarding revenue and expenditure recognition. Currently the UN recognizes an obligation at the time the purchase order or miscellaneous obligating document is issued and a disbursement at the time the associated payment is made. Within the UN, expenditures are the sum of obligations and disbursements. The receipt of an invoice does not generate a transaction because it is not recorded until a check is produced. The IMIS accounting rule facility will allow the UN to continue this practice or to change to a recognition of expenditures at the time the invoice is received. In turn a transaction could be developed that would recognize revenue at the time the assessment or pledge is made.

This discussion of receivables and payables is important not for academic reasons but rather because of its impact on the UN's operating statement and, eventually, the fund balances. While the ability to integrate receivable and payable activity facilitates the management of cash, it also alters the basis upon which changes to fund balance are calculated and the valuation of "year end savings" which affects the assessment process. In addition,

the recognition of revenue raises issues with regard to the basis on which allotments can be issued (i.e. Recognized Revenue or Cash Received). While a decision on these matters is not required to design IMIS it will be required during IMIS implementation.

IV. Transaction Storage & Reporting

After transactions have been entered and pass all edits, IMIS will post them to the "Ledgers" using the accounting distribution on the transaction and the associated accounting rule. Transactions that fail edits will be marked as erroneous and will not be posted to the ledgers. Erroneous transactions will be accepted by IMIS and included on the database as "suspended" items, to facilitate corrections. A series of screens and reports will be provided to accommodate this function.

IMIS will utilize a series of ledgers to provide online and hard-copy management information. The interactivity and integration of IMIS will mean that these ledgers will contain real time information to provide management with the most timely information possible. The ledgers will be structured on the basis of the elements in the Chart of Accounts and each element will be a separate field on each ledger. While the ledgers have been designed to satisfy the UN's essential financial reporting requirements, as identified in the first part of this report, the separation of accounting elements will accommodate the use of SQL-based report tools so that users can generate ad hoc reports on demand.

A. Ledgers

The ledgers are transaction storage devices, designed to demonstrate the financial integrity of the UN financial system and to support management information requirements. The ledgers can be grouped into three major types and each type will be used to facilitate management reporting that is currently performed in multiple systems. Because of the comprehensive nature of the IMIS Chart of Accounts and transaction posting process, all ledgers will be updated with a single transaction document. In addition to expediting transaction processing this single update process will allow all users of UN financial information to consult the same integrated source.

1. Financial Ledgers -The principle objective of the financial ledgers is to demonstrate the financial integrity of the UN financial system and to provide timely financial management information. The financial ledgers consist of three integrated files. These include the General, Operating and Transaction Ledgers.

General Ledger - The general ledger is used to demonstrate the integrity of the financial system by fund. It is organized by fund, organization and account and contains debit and credit balances. Trial Balances and Balance Sheets can be generated from the general ledger and it can be used to demonstrate the trial balance for each fund is in balance.

For each fund in the general ledger IMIS will be able to report the beginning and ending balance for assets, liabilities, equities and control accounts. Control accounts will be included for revenue, expenditures, obligations, and obligation reserve.

In addition, because of the UN's international structure, an IOV account will be included for each duty station and headquarters as a control account. The balances in the control accounts will represent financial operations during the fiscal period and will be closed to the appropriate fund balance when the final closing process is completed. During the fiscal period a facsimile closing can be performed to present a balance sheet by fund.

Operating Ledger - The operating ledger will be used essentially for management reporting. It will contain budgeted and actual revenue and expenditure activity. This ledger will be organized by the full accounting distribution including project so that a manager could review the current status of his budget by any element or combination of elements in the accounting distribution.

Detailed revenue and expenditure in the operating ledger will support balances in the respective control accounts in the general ledger. The operating ledger will also be the ledger that is used to determine the available balance for a budget and provide managers with available balance amounts. Consequently, this ledger will contain the following amounts by accounting distribution. Each of these amounts will be updated as associated transaction documents are processed using the accounting distribution of the document and the associated accounting rule.

- * Appropriation Amount
- * Allotment Amount
- * Preencumbrance Amount
- * Obligation Amount
- * Expenditure Amount
- * Available Balance Amount

Transaction Ledger - The last of the financial ledgers is the transaction ledger. This ledger is organized by document and provides the audit trail detail for the general and operating ledgers. Every IMIS document that has a financial consequence will generate one or more transaction ledger entries. Each document can generate more than one transaction ledger entry because the total cost of a document can be allocated to more than one accounting distribution. As documents are processed IMIS will use the accounting rules to summarize the transaction ledger entries into operating and general ledger entries, providing for an integrated set of financial ledgers. An illustration of the ledger integration follows.

2. Subsidiary Ledgers - The subsidiary ledgers include the Accounts Receivable ledger and the Accounts Payable ledger. These ledgers are designed to manage the receivable and payable activity of individuals and maintain the detail balances that support the balances in the payable and receivable accounts in the General Ledger. IMIS will provide for this functionality via its accounting rules. Payable and receivable rules will be established that will provide for the simultaneous posting to the general and subsidiary ledgers. In addition associated cash receipt and disbursement transactions will update subsidiary accounts and the cash accounts in the general ledger. The interactivity of IMIS will allow managers to query the status of any subsidiary account and ascertain its balance. Transaction details supporting the balance will be contained in the transaction ledger by document.

Subsidiary ledger functionality is especially important in the UN because of its desire to determine the up-to-date balance of governments, staff members, agencies and others. The subsidiary ledger will offer this functionality. Because the assessment and payroll and entitlement modules will be integrated with the financial module they will generate the transaction and subsidiary ledger records needed to generate timely reports for all of these entities. In addition the ledgers can be used to array for a staff member or government the status of their charges so that they can choose how to apply a payment. In addition the integration of payroll within IMIS will provide for the automatic update of the subsidiary ledger when recoveries are made.

3. Cash Ledgers - The cash ledgers have been designed to facilitate the management of the liquidity of the UN. In this regard the Cash ledger and the Investment ledger, in conjunction with the Receivable and Payable ledgers and the Bank Fund report, will provide the Treasury with up-to-date information on the current cash position and cash requirements of the UN worldwide.

Cash Ledger - The Cash ledger will be updated with every cash receipt and cash disbursement transaction as they are processed. These transactions will provide the basis for determining the cash balance of all UN bank accounts and will be in balance with the amounts in the associated cash account in the Bank Fund on the general ledger. Correspondingly, the cash equity position of each operating fund will summarize to the associated bank account.

Investment Ledger - The Investment ledger will be used to uniquely record each investment acquired by the UN. These investments will be identified by generally accepted investment codes so that the UN may automatically record market values and IMIS can calculate the market value of the UN portfolio. Investment earnings will be recorded in the general ledger and the investment ledger, by investment as the accounting rules process appropriately coded cash receipt transactions. This will facilitate the calculation of investment yields where appropriate. The IMIS will also accommodate the disposal of investments, and the maturity dates recorded with each investment will provide for the inclusion of the investment in cash flow forecasts and projections. As noted above receivable and payable transactions will be recorded with transaction currencies so that cash flow statements can be prepared by currency.

B. Reporting

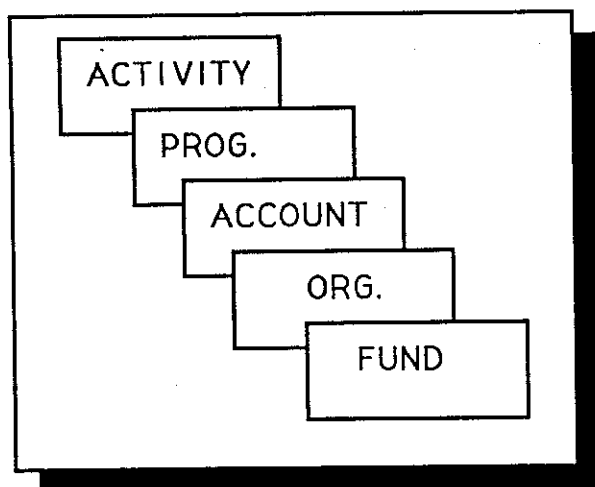
At the beginning of this report we noted the significant reporting requirements of the current UN financial systems. IMIS has been designed to accommodate the preparation of these reports and to produce them on demand and with more integrity. The interactive and simultaneous updating of the ledgers via transactions will accomplish this objective. The architecture of the ledgers in accord with the chart of accounts is designed to produce all of the reports currently required by UN management and all those that may be required in the future. These fall into the following major categories:

1. Financial Reports - Financial reports will be produced by reading the financial ledgers. Essentially they will include Balance Sheets and Trial Balances by fund. These reports will be online and in hard-copy. Because of the integrated nature of the IMIS Chart of Accounts the reports can be run for any fund or group of funds. This means that the same financial reports can be run for General, Peacekeeping, Technical Cooperation, Trust and other funds. In addition, because of the IMIS hierarchies, these reports can be prepared for any level in the fund hierarchy.

2. Cash Reports - Cash reports will be prepared using the General, Cash, Investment and Subsidiary ledgers. These reports will include the cash position of any fund or the consolidated cash position of the UN. Because bank accounts will be denominated in various currencies, the UN will be able to determine its cash position by currency worldwide. In addition the subsidiary and investment ledgers will provide for the preparation of cash flow reports by currency.

3. Management Reports - In addition to providing all the data necessary to prepare budget to actual reports on an Organization and Programme basis, the Operating ledger will provide all the data to report on the financial status of projects as well. In addition, because the Project Table will provide for the mandate period of the project or mission, the IMIS will be able to produce inception to date reports for the project as well as reports for the current fiscal period.

CHART OF ACCOUNTS

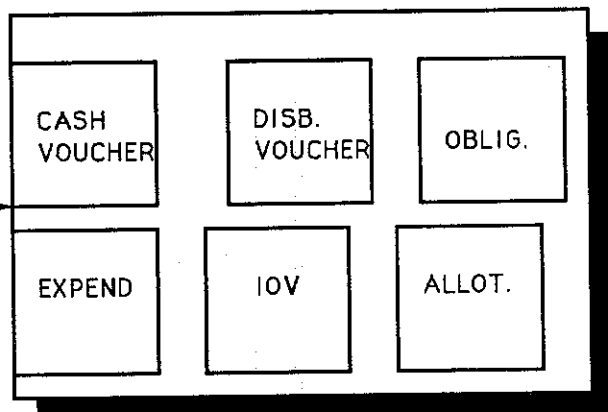


UNITED NATIONS

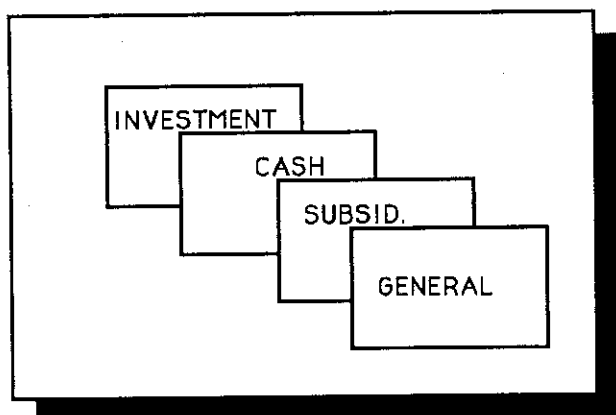
IMIS

FINANCIAL MANAGEMENT

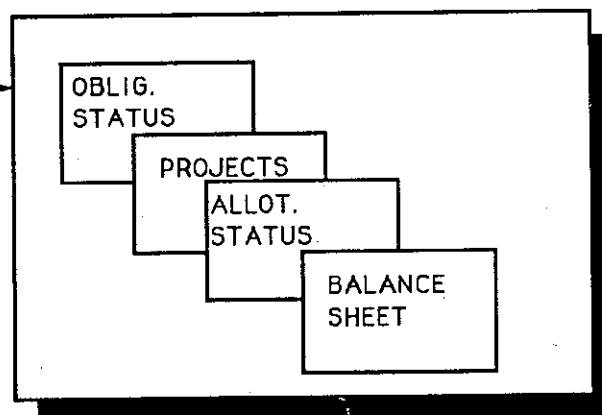
TRANSACTION DOCUMENTS



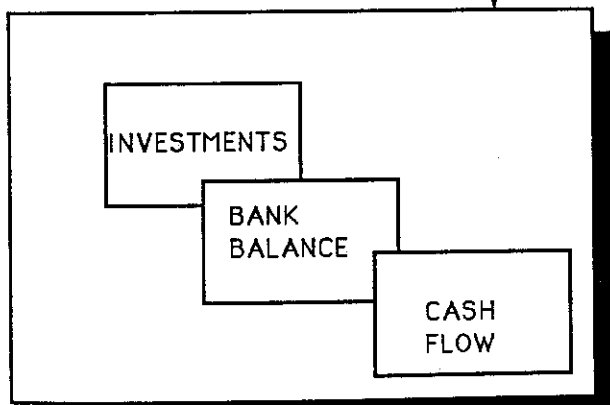
FINANCIAL LEDGERS



FINANCIAL REPORTS



TREASURY REPORTS



V. Conclusion

The financial coding structure proposed in this paper is designed to enhance the timeliness and meaningfulness of UN financial information, which should enhance decision making at the UN and advance the achievement of the overall goal of the organization. These are worthy objectives and have the support of UN management. As with all worthy objectives, change is inevitable and we conclude this paper with a brief discussion of some of the changes that will need to be made to implement a new financial coding structure in the UN.

A. Revise Chart of Accounts

The current UN chart of accounts is currently a fifteen character number that is segmented to indicate various coding elements. In addition, depending on the type of account, these characters can assume different meanings. IMIS will require an evaluation of the UN General Ledger and Allotment Code Handbooks to develop the IMIS Chart of Account Tables. This analysis should include the accounting codes used at offices away from headquarters as well as the headquarters codes. The revision should take into consideration the hierarchal functionality of IMIS and the IMIS ability to mix coding elements as transactions require. In addition the analysis should look closely at the UN programme structure and remove organizations that are currently included within this structure.

The proposed IMIS structure is not an attempt to replicate the current UN coding structure. It attempts to capture the essential financial coding and reporting requirements of the UN and in this regard it may be conducive for the UN System of Organizations. A uniform coding structure for the UN System would enhance the

interagency transaction process and improve the flow of information within the system. We believe that the IMIS structure will accommodate the needs of the UN System and revisions to the UN structure should consider UN System requirements as well.

B. New Transaction Documents

While all automated systems offer a paperless office, few achieve this goal. The interactivity and integration of IMIS will significantly reduce the amount of paper required to execute administrative actions within the UN, but paper documents will probably still be required. Existing documents provide for the coding structures currently in use. These documents will need to be revised to accommodate the IMIS structure. In addition the documents should be revised to accommodate the functional enhancements of IMIS. This means that documents should provide for multiple accounting distributions so that the amount of the document can be spread across more than one accounting distribution. In addition the documents should be reviewed with an understanding of the IMIS inference capabilities. Because IMIS will be capable of inferring accounting codes, documents should require a minimum of data entry by the user.

C. Interfaces & Conversions

Interfaces and conversions will be discussed in greater detail in the IMIS implementation plan but the new financial coding structure will create its own special requirements. Initially historical data must be converted from the various financial systems that exist throughout the UN to the new IMIS ledgers. This conversion will require the development of conversion programs and conversion tables that relate the old ledger and allotment codes to a series of IMIS coding elements. In addition this conversion must be organized so that the converted subsidiary ledgers are in agreement with the general ledger.

Interface techniques will be similar to the conversion techniques but they will be used periodically until all UN systems are converted to an IMIS structure. Other systems that are beyond the scope of IMIS, like some of the revenue generating systems (e.g. UN postal system), should be evaluated to determine their interface requirements and the opportunity to include them within IMIS functionality.

D. Internal Controls

Existing internal controls at the UN were based on a highly centralized organization that employed batch computer systems and relied on manual editing to correct errors and detect fraud. The IMIS world will provide for decentralized processing, interactive updates of data and employ database technology. Needless to say the old internal controls will be inappropriate. The enhanced functionality of IMIS should be investigated and implementation alternatives evaluated and considered. Once a implementation strategy has been decided upon operational procedures should be developed and new controls designed. These issues are described in greater detail in the IMIS Design, Audibility and Security discussion paper.

E. Work Procedures

Related to internal controls is work procedures. Centralized data entry and error correction will be inappropriate with IMIS. These tasks should be distributed to enhance the timely entry of data and availability of management information. The reduction of centralized data entry and error correction coupled with the enhanced reporting capabilities of IMIS should cause budget and finance staff throughout the UN to reorient their skills. They should plan on using IMIS to manage data and apply their skills to more analytical tasks in support of management information. Enhanced productivity with a system like IMIS depends on getting the data into the system as quickly as possible. Finance staff will need to learn to let the system provide the editing and checking that they once used to do and apply their skills to analysis and decision support. This reorientation and the associated retraining will be a task that must be undertaken if the IMIS investment is to be returned.

The following example is designed to demonstrate the cash accounting capabilities of the IMIS. For the purpose of illustration we have developed two simple cash transactions. One a cash receipt (CR01) and the other a cash disbursement (CD01). Both of these transactions might be transmitted on-line or generated interactively by an IMIS transaction document.

The operating accounting distribution for the transaction is coded on the transaction. Using the bank number on the transaction the IMIS will read the Bank Table and determine the associated cash account and bank fund. This additional data will be used to generate the offsetting entry in the operating fund and the entries to the bank fund. These entries are presented on the accompanying United Nations Trial Balance. The final column of the trial balance shows the consolidated cash position of the UN and the equity position of each operating fund.. Within the IMIS this position will be available on-line.

United Nations
Bank Table

Bank Code	Description	Bank#	Cash Acct	Fund	Control
O1	Chemical Bank	AA1234	A102	BK	A101
O2	Lloyds Bank	BBB123	A103	BK	A101

**United Nations
Cash Receipts Transaction**

Doc.#	Date	Recipient	Name		Amount	
CR01	07/07/90	UK	United Kingdom		\$500.00	
Line#	Bank#	Fund#	Org.	Account	Prog.	Amount
01	01	RB		FFFF		\$500.00
02						
03						

**United Nations
Cash Disbursement Transaction**

Doc.#	Date	Payee	Name		Amount	
CD01	07/07/90	TR	Travel King		\$100.00	
Line#	Bank#	Fund#	Org.	Account	Prog.	Amount
01	01	RB	D888	A52A	ADMN	\$100.00
02						
03						

**United Nations
Trial Balance**

Fund	Account	Description	Doc.#	Begin	Debit	Credit	End	Cash
RB		Regular Budget						
	A102	Chemical Bank		2000			2000	
			CR01		500		500	
			CD01			-100	-100	2400
	A103	Lloyds Bank		1000			1000	
			CR02		300		300	1300
	A301	Fund Balance Unres.		-3000			-3000	
	FFFF	Contributions						
			CR01			-500	-500	
			CR02			-300	-300	
	A52A	Travel						
			CD01		100		100	
PK		Peacekeeping						
	A102	Chemical Bank		1500			1500	
			CD02			-200	-200	1300
	A301	Fund Balance Unres.		-1500			-1500	
	A52A	Travel						
			CD02		200		200	
BK		Bank Fund						
	A101	Cash Control		4500			4500	
			CR01		500		500	
			CD01			-100	-100	
			CD02			-200	-200	
			CR02		300		300	5000
	A102	Chemical Bank		-3500			-3500	
			CR01			-500	-500	
			CD01		100		100	
			CD02		200		200	-3700
	A103	Lloyds Bank		-1000			-1000	
			CR02			-300	-300	-1300
	Totals			0	2200	-2200	0	5000

IOV Transaction

The following IOV related transactions are designed to demonstrate the automatic ledger postings that will be created by the IMIS for IOV related transactions. An example of a consolidated UN trial balance follows to reflect the transactions and an IOV reconciliation trial balance follows that to demonstrate the balance of the IOV account across all UN organizations. Postings are reflected in the trial balances via the document number.

1. Distribute beginning balances from consolidated position to individual duty stations. (JV01)
2. Duty Station 1 (DS1) authorizes headquarters (HQ) to execute 50.00 transaction on its behalf (AUT1) and establishes obligation.
3. HQ executes 50.00 transaction and charges DS1 IOV account (IOV1), referring to authorization (AUT1).
4. DS1 records 50.00 expenditure and credits HQ's IOV account (IOV1).
5. DS1 liquidates 50.00 obligation (IOV1).
6. DS2 authorizes DS1 to execute 75.00 transaction on its behalf. (AUT2)

7. DS1 executes 75.00 transaction and charges DS2 IOV account (IOV2), referring to authorization (AUT2).

8. DS2 records 75.00 expenditure and credits DS1's account (IOV2).

9. DS2 liquidates 75.00 obligation (IOV2).

10. Duty station operating accounts are closed to DS IOV accounts and Duty Station General Ledgers are consolidated with HQ General Ledger (JV02).

**United Nations
Trial Balance**

Fund	Organ.	Account	Description	Doc.#	Beginning	Debit	Credit	Ending
RB			Regular Budget					
	D200		Headquarters					
		A102	Chemical Bank		2000			2000
				JV01			-500	-500
				IOV1			-50	-50
		A202	Vendors AP		-500			-500
				JV01		100		100
		A304	IOV Account		-1500			-1500
				JV01		400		400
				IOV1			-50	-50
		A52A	Authorized Travel					
	D201		Duty Station 1					
		A102	Chemical Bank			300		300
				JV01			-75	-75
				IOV2				
		A202	Vendors AP				-75	-75
				JV01				
		A304	IOV Account				-225	-225
				JV01		50		50
				IOV1			-75	-75
				IOV2				
		A305	Obligations			50		50
				AUT1			-50	-50
				IOV1				
		A306	Oblig. Reserve				-50	-50
				AUT1		50		50
				IOV1				
		A52A	Authorized Travel			50		50
				IOV1				
	D202		Duty Station 2					
		A102	Chemical Bank			200		200
				JV01				
		A202	Vendors AP				-25	-25
				JV01				
		A304	IOV Account				-175	-175
				JV01		75		75
				IOV2				
		A305	Obligation			75		75
				AUT2			-75	-75
				IOV2				
		A306	Oblig. Reserve				-75	-75
				AUT2		75		75
				IOV2				
		A52A	Authorized Travel			75		75
				IOV2				
			Total		0	1500	-1500	0