System Administration Assistant (BC-RRR)

HELP.BCRRR

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Copyright

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System Administration Assistant (BC-RRR)

System Administration Assistant (BC-RRR)

The *System Administration Assistant* was developed for Ready-to-Run R/3 [Seite 171] and is a high-performance tool that actively supports the SAP system administrator in all important tasks:

- Customizing and Development [Seite 9]
- Administrating and Operating your Systems [Seite 115]
- Troubleshooting, Service and Support [Seite 142]

Individual topics are arranged according in a hierarchical tree structure according to their execution period (daily, weekly, monthly), and the system type (development system or production system):

All Tasks that were executed according to the execution period are marked in the *System Administration Assistant* as having been performed.

In addition to extensive documentation, the *System Administration Assistant* lets you go directly to the R/3 transactions.

Within the structure navigation you can dynamically adjust the tree structure display to the needs of the administrator. Irrelevant information (for example, non-available database versions or operating systems) are not displayed which makes the display easier to view and use.

The menu tree contains a customer-specific area, that you can modify, and a non-modifiable SAP area. A new feature is the Alert Collector that informs you via e-mail about important problems such as errors in the system log.

To call the *System Administration Assistant* in the SAP System, you can enter Transaction **SSAA** or choose *Tools* → *Administration* → *Monitor* → *System Administration Assistant*.

Customizing and Development

Before starting up your SAP System, you must adjust its business-independent functionality to the specific business needs of your company. This process is called *Customizing*.

By adjusting existing ABAP programs or by creating new ones, you can increase the functionality of the SAP System. This process is called *development*.

System Landscape

One-System Landscape

If your SAP System is in a one-system landscape, do your Customizing and development work in the production system.

Make sure you understand and comply with the restrictions that apply to a one-system landscape.

SAP recommends that you use at least a two-system landscape so that you can test your Customizing and development work more efficiently.

Two-System Landscape

If you have a two-system landscape, customize, develop and test in the development system <DEV> and then transport your changes into the production system <PRD> after you have tested them successfully.

Three-System Landscape

If you have a three-system landscape, customize and develop in the development system <DEV>. Then test your changes in the quality assurance system <QAS>. Transport your changes into the production system <PRD> only after you have tested them successfully. This means that a three-system landscape offers the best protection against importing Customizing and development errors into the production system.

For a more detailed description of all system types, see the section Software Logistics [Seite 11].

Customizing and Development Process

The following Customizing and development process corresponds to the ASAP© Implementation process of SAP. The various activities were sub-divided according to the Customizing and development phases of the implementation project and the responsibilities of the various project team members.

The implementation steps are divided into 6 phases from the point of view of the system administrator:

- **Phase 1:** Checking the Customizing and Development Environment [Seite 46] (already executed with the Ready-to-Run R/3 System). The system administrator is normally responsible for various configuration and checking tasks that are required for Customizing and adding new functionality to the SAP System.
- **Phase 2:** Requirements for Customizing and Development [Seite 47]. The system administrator and the project manager are responsible for the definition of SAP users for

each project team member, and for assigning an R/3 authorization level to each of these users.

- **Phase 3:** In the project phase Customizing, Development and Testing [Seite 70] the application consultants execute the Customizing activities required for adjusting the system to the needs of each business. ABAP developers generate customer-specific reports, make R/3 enhancements (if necessary), and execute all preliminary corrections found in SAPNet - R/3 Frontend.
  Customizers and developers test their work in this phase.
- **Phase 4:** After the Customizing and development work, the changes are transported to the system <PRD> to be tested before going live.

  In Pre-Production Testing [Seite 85] the R/3 System and the Customizing and development changes are tested using real data from your company in the production system (<PRD>). SAP offers special services for this phase, for example, the **GoingLive Check**. The tests before going live ensure that your R/3 System is free from errors at the start of production operation with R/3.
- **Phase 5:** Going Live with <PRD> [Seite 107]. If the tests are successful before going live, you can start production operation with your system. The R/3 System is ready for your users.
- **Phase 6:** Post-Customizing and Development Tasks After Going Live [Seite 113]. After you have started production operation in <PRD>, the post-production phase begins. Normally, you will have to occasionally make small Customizing changes and ABAP development enhancements.

There are other tasks for the Customizing Team, the team that adjusts your R/3 application according to your business needs. For example, they need to decide how to model the business processes in the R/3 System. The system administrator must know about these tasks, however, they are not linked to the tasks that need to be performed during the project phases (see above). For more information about the overall process, see the section Customizing [Extern] in the SAP Library.

The responsibilities of the system administrator, the project leader and the project members are dealt with in the individual phases. In the section The Team Leader's Responsibilities [Seite 44] the responsibilities that cover various phases are discussed.

Development, testing and production operation occur in different clients. You can find an overview of the clients in your system in the table Clients in <PRD> [Seite 18].

For information on the system and client settings, and on the transport settings in your system, see the section System and Client Settings [Seite 25].

Your SAP System has a unique 3-character name. You can freely choose this name

according to the SAP naming convention when you install the system. In this document, the development system is named <DEV>, the quality assurance system is named <QAS> and the production system <PRD>.

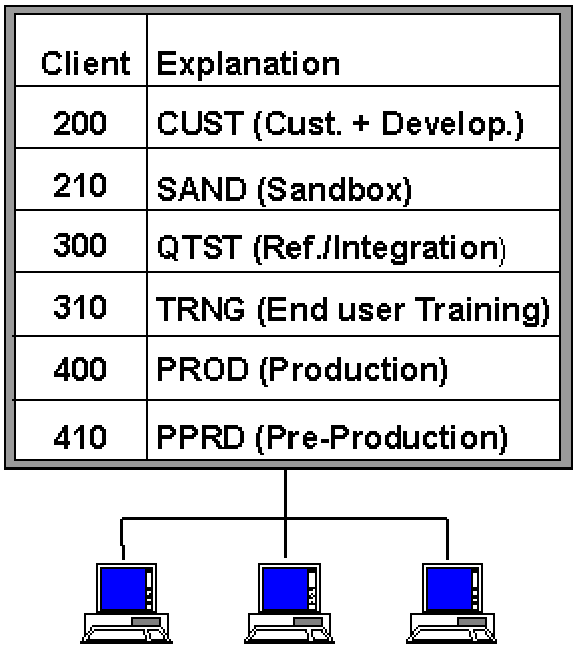
Software Logistics

A) One-System Landscape

A one-system landscape consists of a production system (<PRD>). The following graphic outlines this one-system landscape and its clients as recommended according to the SAP guidelines.

If you own a Ready-to-Run system, your system is already preinstalled according to these guidelines.

Production System



Outline of the One-System Landscape with the Necessary Clients

Reference clients 000, 001 and 066 are also in the standard system. Do **not** delete this under any circumstances.

Description of SAP System PRD

- You make Customizing settings and develop programs in the customizing client CUST (200).
- The client SAND (210) is used as a practice client to become more familiar with the basic SAP System.
- Client QTST (300) is used for continuous testing. It is used as a reference for the training client TRNG (310). This is where the end users are trained in the current settings.

- The production client PROD (400) contains the production data.
- The integration test takes place however in the preproduction client PPRD (410). Customizing settings and program developments are transported into the client to enable this.

Advantages and Disadvantages of a One-System Landscape

The main advantage of a one-system landscape over a two- or multiple-system landscape are the lower hardware costs.

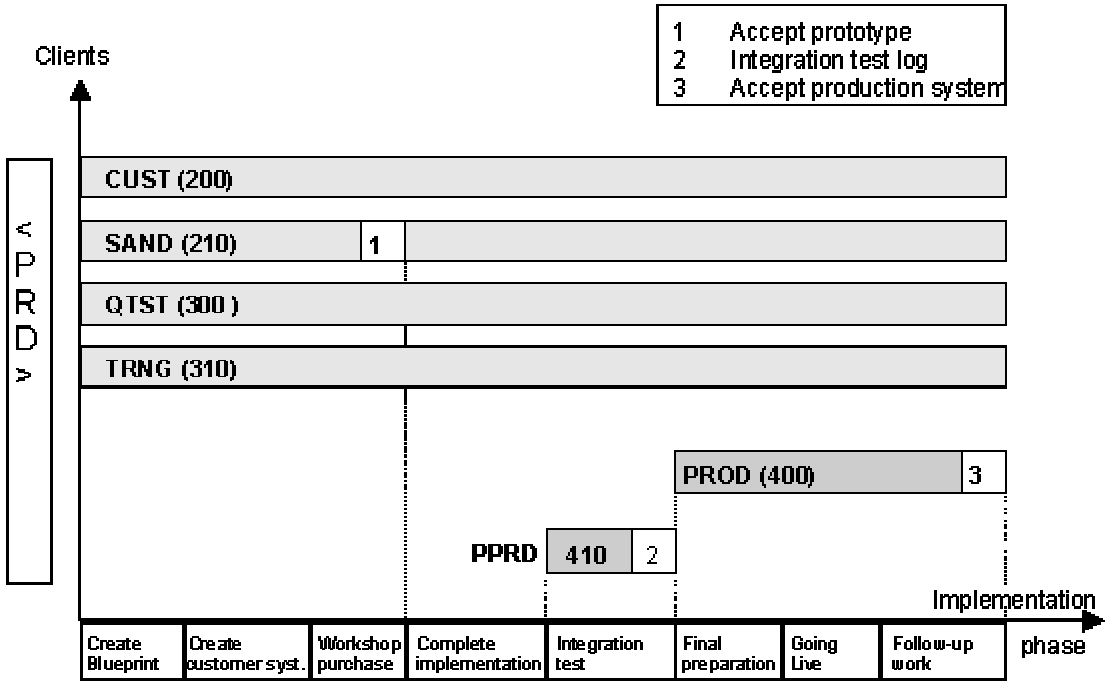
There are, however, the following disadvantages:

- You carry out all Customizing and development tasks in the production system. These changes can affect the current settings of your system directly.
- It is more difficult to introduce applications step-by-step in a one-system landscape.

For these reasons, if you have a one-system landscape, SAP strongly recommends that you make use of some of its additional services, for example the remote upgrade service.

Time-Scale of the SAP One-System Landscape

The following graphic displays a one-system landscape in relation to the time-scale and the availability of the individual clients during each phase of its implementation:



Time-scale of the SAP One-System Landscape

In the production system <PRD>, clients CUST (200), SAND (210) and QTST (300), TRNG (310), PROD (400) and PPRD (410) are already available when the system is delivered.

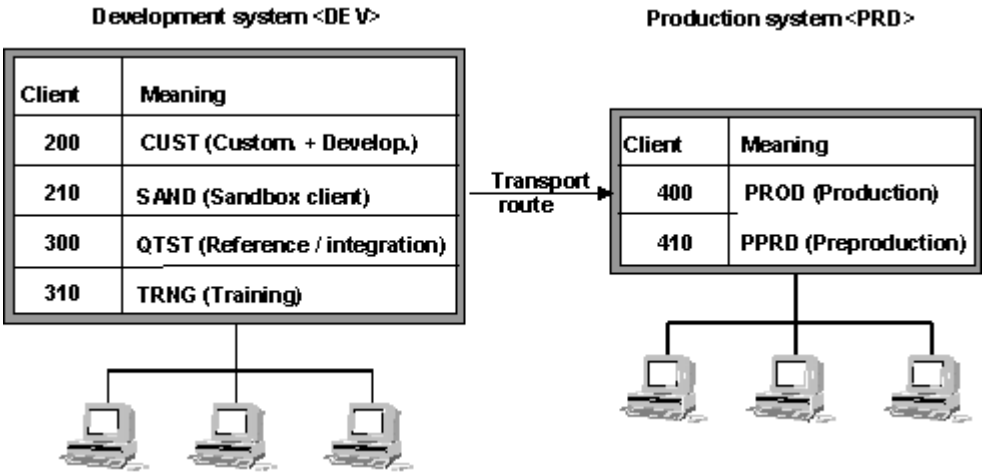
The training client TRNG (310) and the practice client SAND (210) are re-initialized regularly by client copy. The production client PROD (400) is set up in the production system <PRD> after a successful integration test in the preproduction client PPRD (410).

For more information on the system and client settings, and on the transport settings in your system, see System and Client Settings [Seite 25].

B) Two-System Landscape

A two-system landscape consists of a development system <DEV> and a production system <PRD>. The following graphic displays the two-system landscape and its clients as recommended in the ASAP guidelines.

If you own a Ready-to-Run system, your system is already preinstalled according to these guidelines.



Outline of the Two-System Landscape with the Necessary Clients

Reference clients 000, 001 and 066 are also in the standard system. Do **not** delete this under any circumstances.

Description of SAP System DEV

- You make Customizing settings and develop programs in the customizing client CUST (200).
- The client SAND (210) is used as a practice client to become more familiar with the basic SAP System.
- Client QTST (300) is used for continuous testing. It is used as a reference for the training client TRNG (310). This is where the end users are trained in the current settings.

Description of SAP System PRD

- The production client PROD (400) contains the production data.
- The integration test takes place in the preproduction client PPRD (410). Customizing settings and program developments are transported into the client to enable this.

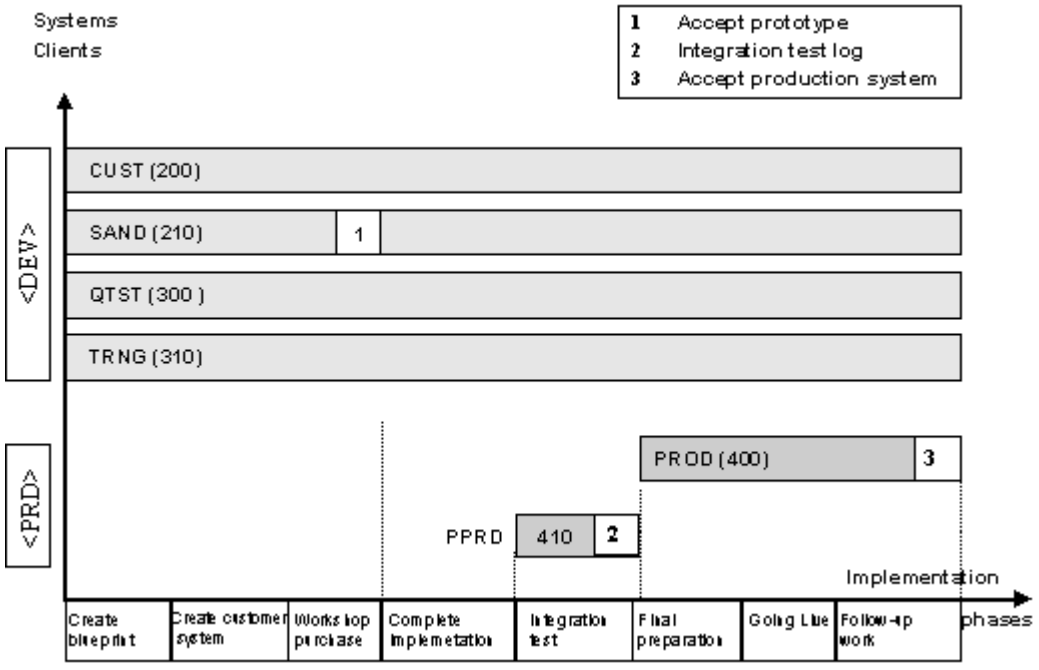
Advantages of a Two-System Landscape

- You can prepare and test the implementation of SAP applications in the development system.
- You can perform Customizing and development tasks in the development system. In the production system you only have the consolidated production environment.
- After the preparation phase (test, check and release) you can transport parameters and programs from the development to the production system.

SAP recommends this system landscape for companies without large development projects.

Time-Scale of the SAP Two-System Landscape

The following graphic displays the availability of the individual clients in both <DEV> and <PRD> systems with regards to the individual implementation phases:



Time-scale of the SAP Two-System Landscape

In the Customizing and development system <DEV>, clients CUST (200), SAND (210), QTST (300) and TRNG are already available when the system is delivered.

In the production system <PRD> the clients PROD (400) and PPRD exist (410).

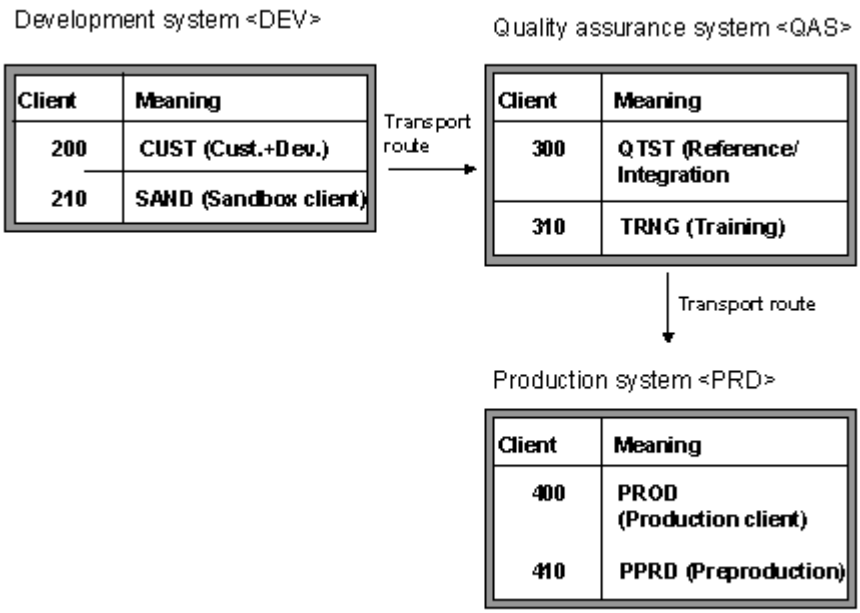
The training client TRNG (310) and the practice client SAND (210) of the development system <PRD> are re-initialized regularly by client copy.

The production client PROD (400) in the production system <PRD> is set up after a successful integration test in the preproduction client PPRD (410).

For more information on the system and client settings, and on the transport settings in your system, see System and Client Settings [Seite 25].

C) Three-System Landscape

A three-system, landscape consists of a development system <DEV>, a quality assurance system <QAS> and a production system <PRD>. The following graphic displays the three-system landscape and its clients as recommended in the ASAP guidelines.



Outline of the Three-System Landscape with the Necessary Clients

Reference clients 000, 001 and 066 are also in the standard system. Do not delete this under any circumstances.

Description of SAP System DEV

- You make Customizing settings and develop programs in the customizing client CUST (200).

- The client SAND (210) 'sandbox' is used as a practice client to become more familiar with the basic SAP System.

Description of SAP System QAS

- Client QTST (300) is used for continuous testing. The changes made in the development system are imported into the client QTST and can be tested there independent of any further developments.
- Client QTST is used as a reference for the training client TRNG (310). This is where the end users are trained in the current settings.

Description of SAP System PRD

- The production client PROD (400) contains the production data.
- The integration test takes place in the preproduction client PPRD (410). To enable this Customizing settings and program developments are transported into the client.

Advantages of a Three-System Landscape

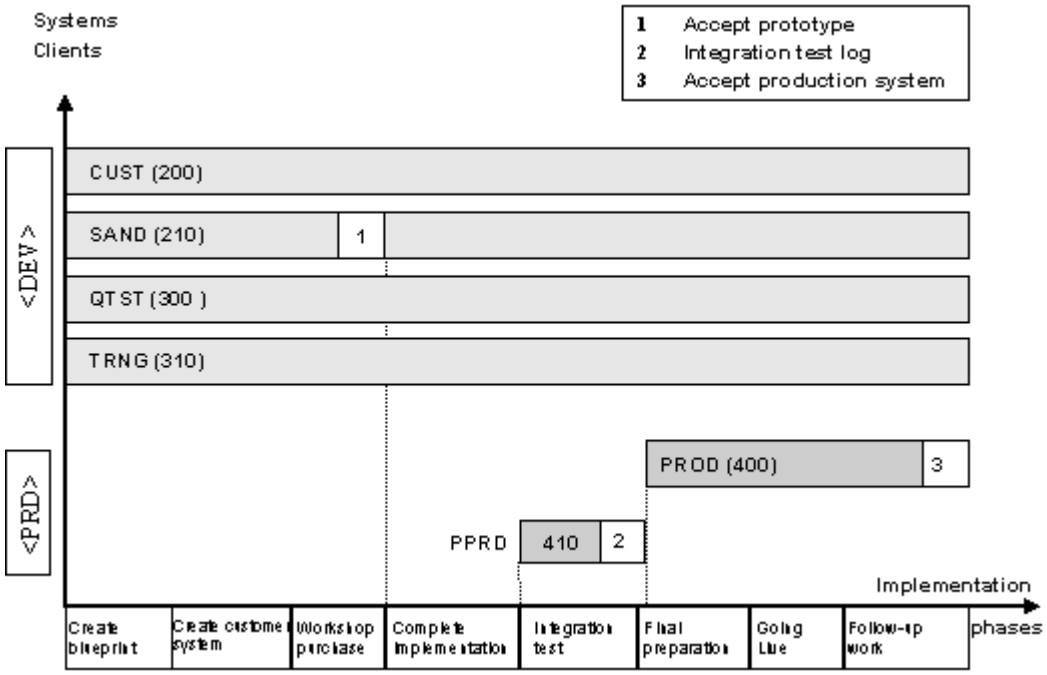
A three-system landscape has additional advantages compared to a two-system landscape:

- You can divide the implementation of SAP applications into smaller, units that are easier to work with.
- You perform Customizing and development tasks in the development system and test them in the quality assurance system first on the project level.
- After performing the tests in the quality assurance system, you can transport specific objects later if an error occurs and the repeat the test.
- A three-system landscape simplifies a multi-step implementation of modules since these can be tested and released independently of each other.
- You can verify if the transports are complete in the quality assurance system without this having an effect in the production system.
- Functional tests (in the quality assurance system) and the integration test (in the production system) are separated from each other.

SAP recommends using a three-system landscape in companies with large 
development projects.

Time-Scale of the SAP Three-System Landscape

The following graphic displays the availability of the individual clients in the SAP system landscape in the <DEV>, <QAS> and <PRD> systems with regards to the individual implementation phases:



Time-scale of the SAP Three-System Landscape

In the Customizing and development system <DEV> the CUST (200) and SAND (210) clients, and in the quality assurance system the QTST (300) and TRNG (310) clients are already available when the system is delivered. In the production system <PRD> the PROD (400) and PPRD (410) clients are available.

The training client TRNG (310) and the sandbox client SAND (210) for the development system <DEV> are re-initialized regularly by client copy. The production client PROD (400) in the production system <PRD> is set up after a successful integration test in the preproduction client PPRD (410).

For more information on the system and client settings, and on the transport settings in your system, see System and Client Settings [Seite 25].

Clients

a) Clients in a One-System Landscape

The following tables show you the clients in <PRD> and their roles in Customizing and change administration.

These clients are pre-defined if you have a Ready-to-Run System.

Clients in the Production System <PRD> (One-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.
001	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 001.
200	**CUST: Customizing and Development Client** All changes made to client-specific objects are automatically recorded and stored in development requests in client 200. You can only perform client-independent customizing in this client. You must manually maintain master and transaction data for testing. You can also use the client to develop programs. Only test programs in the quality assurance client (300) to prevent damaging customizing settings.
210	**SAND: “Sandbox” Client** No Customizing or development work is done in this client. Use this client to test functions without risking data. The system administrator updates the client regularly using a client copy from client 200.
300	**QTST: Test and Integration Client and Reference Client for Training** No Customizing or development work is done in this client. It is the primary test client for testing individual units of development work and quality assurance testing before the pre-production phase. Client 300 is kept up-to-date by copying the requests created in the Customizing and development client 200. The person responsible for Customizing specifies when a request is copied to client 300. Normally, as each unit of Customizing work is completed, the resulting request must be copied. The customizer must test the new functions in a “unit test”. At project milestones, for example, directly before the pre-production phase, you should perform larger scale quality assurance tests with the users in your company.

310	**TRNG: Training Client** This client is used to train end users. It contains master and transaction data so that the training is as realistic as possible. You must maintain the data manually as required for training. Neither development work nor client-independent Customizing is allowed. Neither may you change client-specific objects.
400	**PROD: Production Client** This is the production client for your business. Although the system change options set in the production client affect all the clients, for data protection reasons you cannot make any client-specific or client-independent Customizing settings, or changes to the Repository objects. When you are ready for production operation, all the changes transported to client 410 are imported into this client. This prepares client 400 for productive use.
410	**PPRD: Pre-Production Client** In this client, the tests before going live and the integration tests are performed. Testing can begin using master and transaction data that was transferred from the old system. In the pre-production client, you can cannot make any changes to the Repository objects or perform any client-independent Customizing. The function for changing client-specific objects is deactivated. When you complete your R/3 System installation, all the customizing and development changes made in the pre-production phase in client 200 are transported into this client.
066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

- Perform Customizing, ABAP development work and tests in client 200 of the production system <PRD>. This client is the source client for all Customizing and development changes in your system.
- The sandbox client 210 is available for experimenting with and learning about your system.
- You can test individual units, perform quality assurance tests and integration tests in client 300.
- Develop and hold training courses in client 310.
- Client 400 is your production client.
- During the tests before going live, use Customizing and development requests to update the pre-production client 410.

Clients 400 and 410 are pre-defined for you in Ready-to-Run Systems. Before you start operating the system productively, you only need to update these clients using the Customizing and development changes from client 200.

B) Clients in a Two-System Landscape

The following tables show you the clients in <PRD> and <DEV> and their roles in Customizing and change administration.

These clients are pre-defined if you have a Ready-to-Run System.

Clients in the Development System <DEV> (Two-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.
001	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 001.
200	**CUST: Customizing and Development Client** All changes made to client-specific objects are automatically recorded and stored in development requests in client 200. You can only perform client-independent Customizing in this client. You must manually maintain master and transaction data for testing. You can also use the client to develop programs. Only test programs in the quality assurance client (300) to prevent damaging customizing settings.
210	**SAND: “Sandbox” Client** No Customizing or development work is done in this client. Use this client to test functions without risking data. The system administrator updates the client regularly using a client copy from client 200.
300	**QTST: Test and Integration Client and Reference Client for Training** No Customizing or development work is done in this client. It is the primary test client for testing individual units of development work and quality assurance testing before the pre-production phase. Client 300 is kept up-to-date by copying the requests created in the Customizing and development client 200. The person responsible for Customizing specifies when a request is copied to client 300. Normally, as each unit of Customizing work is completed, the resulting request must be copied. The customizer must test the new functions in a “unit test”. At project milestones, for example, directly before the pre-production phase, you should perform larger scale quality assurance tests with the users in your company.
310	**TRNG: Training Client** This client is used to train end users. It contains master and transaction data so that the training is as realistic as possible. You must maintain the data manually as required for training. Neither development work nor client-independent Customizing is allowed. Neither may you change client-specific objects.

066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

Clients in the Production System <PRD> (Two-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.
001	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 001.
400	**PROD: Production Client** This is the production client for your business. Although the system change options set in the production client affect all the clients, for data protection reasons you cannot make any client-specific or client-independent Customizing settings, or changes to the Repository objects. When you are ready for production operation, all the changes transported to client 410 are imported into this client. This prepares client 400 for productive use.
410	**PPRD: Pre-Production Client** In this client, the tests before going live and the integration tests are performed. Testing can begin using master and transaction data that was transferred from the old system. In the pre-production client, you can cannot make any changes to the Repository objects or perform any client-independent Customizing. The function for changing client-specific objects is deactivated. When you complete your R/3 System installation, all the customizing and development changes made in the pre-production phase in client 200 are transported into this client.
066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

- Perform Customizing, ABAP development work and tests in client 200 of the development system <DEV>. This client is the source client for all Customizing and development changes in your system.
- The sandbox client 210 is available in <DEV> for experimenting with and learning about your system.
- You can test individual units, perform quality assurance tests and integration tests in client 300.
- Develop and hold training courses in client 310.
- Client 400 in <PRD> is your production client.

- During the tests before going live, use Customizing and development requests from <DEV> to update the pre-production client 410.

Clients 400 and 410 are pre-defined for you in <PRD>. Before you start operating the system productively, you only need to update these clients using the Customizing and development changes from client 200 in <DEV>.

C) Clients in a Three-System Landscape

The following tables show you the clients in <PRD>, <QAS> and <DEV> and their roles in Customizing and change administration.

Clients in the Development System <DEV> (Three-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.
001	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 001.
200	**CUST: Customizing and Development Client** All changes made to client-specific objects are automatically recorded and stored in development requests in client 200. You can only perform client-independent customizing in this client. You must manually maintain master and transaction data for testing. You can also use the client to develop programs. Only test programs in the quality assurance client (300) in the system <QAS> to prevent damaging Customizing settings.
210	**SAND: “Sandbox” Client** No Customizing or development work is done in this client. Use this client to test functions without risking data. The system administrator updates the client regularly using a client copy from client 200.
066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

Clients in the Quality Assurance System <QAS> (Three-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.

300	**QTST: Test and Integration Client and Reference Client for Training** No Customizing or development work is done in this client. It is the primary test client for testing individual units of development work and quality assurance testing before the pre-production phase. Client 300 is kept up-to-date by copying the requests created in the Customizing and development client 200. The person responsible for Customizing specifies when a request is copied to client 300. Normally, as each unit of Customizing work is completed, the resulting request must be released in the development system and transported into the quality assurance system. Dependencies on other transports must be taken into account. The customizer must test the new functions in a “unit test”. At project milestones, for example, directly before the pre-production phase, you should perform larger scale quality assurance tests with the users in your company.
310	**TRNG: Training Client** This client is used to train end users. It contains master and transaction data so that the training is as realistic as possible. You must maintain the data manually as required for training. Neither development work nor client-independent Customizing is allowed. Neither may you change client-specific objects.
066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

Clients in the Production System <PRD> (Three-System Landscape)

Client	Role
000	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 000.
001	**SAP Standard Client** This client is used to install new “neutral” clients by client copy. Do not change or delete client 001.
400	**PROD: Production Client** This is the production client for your business. Although the system change options set in the production client affect all the clients, for data protection reasons you cannot make any client-specific or client-independent Customizing settings, or changes to the Repository objects. When you are ready for production operation, all the changes transported to client 410 are imported into this client. This prepares client 400 for productive use.

Clients

410	**PPRD: Pre-Production Client** In this client, the tests before going live and the integration tests are performed. Testing can begin using master and transaction data that was transferred from the old system. In the pre-production client, you can cannot make any changes to the Repository objects or perform any client-independent Customizing. The function for changing client-specific objects is deactivated. When you complete your R/3 System installation, all the Customizing and development changes made in the pre-production phase in client 200 in the system <DEV> are transported into this client.
066	**EarlyWatch Client** This client is only used as a service client that enables SAP to remotely access the customer system to analyze errors and performance. Do not change or delete this client.

- Perform Customizing, ABAP development work and tests in client 200 of the development system <DEV>. This client is the source client for all Customizing and development changes in your system.
- The sandbox client 210 is available in <DEV> for experimenting with and learning about your system.
- You can test individual units, perform quality assurance tests and integration tests in client 300 in the system <QAS>.
- Develop and hold training courses in client 310.
- Client 400 in <PRD> is your production client.
- During the tests before going live, use Customizing and development requests from <DEV> to update the pre-production client 410.

System and Client Settings

One-System Landscape

Each client has a different setting according to its role within the system. This setting can, however, vary due to the special requirements of a one-system landscape during the course of the project.

System Setting

The system change options define the customizing and development functions in an SAP System. These settings serve as a basis upon which the client settings are structured. Later in this document, you will find more detailed information on how the individual clients are set up.

For the one-system landscape, the system change options are set as follows:

System Settings in the One-System Landscape

SAP System	Options
Production system <PRD>	All objects (with Transport Organizer)

The system change option setting allows you to make any changes to all objects in the production system. This means that you must adhere strictly to the default configuration of the clients.

PRD Client Settings

The client settings define the customizing and development functions in the SAP System. These settings do not override the system change options.

The following graphic displays a client in detail, using the customizing and development client 200 as an example:

(By default you cannot make changes to cross-client objects in this client as it is locked. The lock must only be removed temporarily for cross-client changes.)

Description of the Clients in the Production System PRD

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

- **001: SAP standard client**

  This client is used to set up new "neutral " clients by client copy.

  Do **not** change or delete client 000 or client 001.

- **200: CUST: Customizing and development client**

System and Client Settings

All changes are automatically recorded and stored in change requests in client CUST (200). This client is also used for developing programs. Cross-client customizing is only allowed in this client. You must not create any test data or carry out any tests.

At the end of this phase you must release all cross-client requests.

By default, changes to cross-client objects are prevented in this client by a lock. Only remove the lock temporarily for cross-client changes. You must remember that these changes directly affect all other clients.

- **210: SAND: "Sandbox" practice client**

  This client is used for getting to know the system, trying out applications or testing customizing functions. You can carry out client-specific customizing in this client. Changes are not recorded. Any changes that you make in this client and that you want to keep in your system have to be repeated manually in the client CUST (200). This client can be updated by the administrator at any time using a client copy from CUST (200).

- **300: QTST: Reference client for integration and training**

  This client has two uses. It is used to check the customizing and development changes before the integration test, and to set up the training client TRNG (310) before training, to ensure that all training sessions begin with the same conditions. In this client you cannot make changes to Repository objects or execute cross-client customizing. The function for changing client-specific objects is also deactivated in this client.

- **310: TRNG: Training client**

  This client is used for training the end user. This client contains master and transaction data to ensure that training is as realistic as possible. Neither development nor client-specific customizing is allowed. The function for changing client-specific objects is also deactivated in this client.

  Setting TRNG using client copy leads to all master and transaction data being lost. Use Transaction **SCC1** to transport change requests.

- **400: PROD: Production client**

  This is the production client for your company. You cannot execute any client-specific customizing settings, nor make any changes to Repository objects.

- **410: PPRD: Preproduction client**

  Integration testing is executed in this client. Testing can begin using master and transaction data that was transferred from the old system. In the preproduction client, you cannot make changes to Repository objects or execute cross-client customizing. The function that allows you to change client-specific objects is similarly deactivated.

- **066: Early Watch Client**

  This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance. You must **not** change or delete this client.

Client Settings in the Production System <PRD> (1)

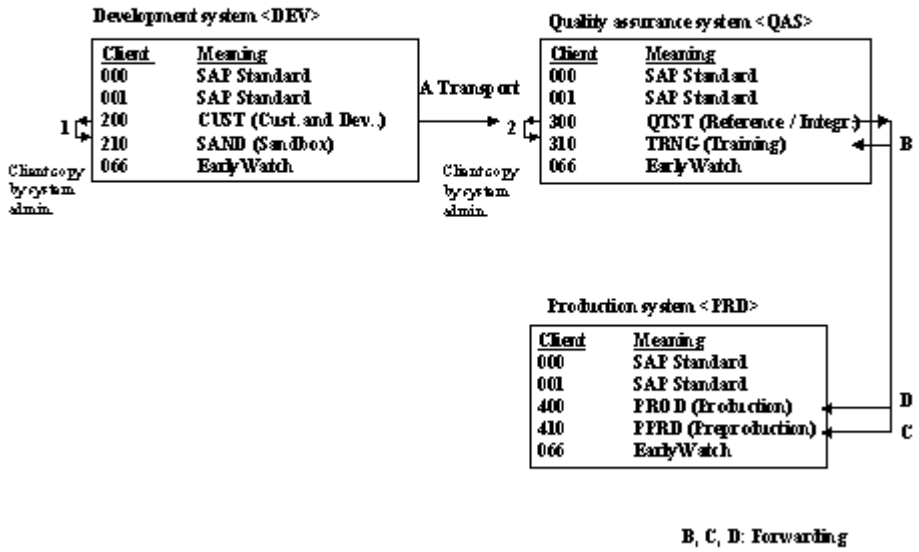
Settings	000/001	CUST (200)	SAND (210)	QTST (300)
Changes to client-specific objects	No changes allowed	Changes automatically recorded	Changes without automatic recording	No changes allowed
Changes to cross-client objects	No changes to Repository or customizing	No changes to Repository or customizing, if necessary, open temporarily for changes	No changes to Repository or customizing	No changes to Repository or customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 0: No restriction	Protection level 0: No restriction
Client role	SAP reference	Customizing/ development	Practice client	Test

Client Settings in the Production System <PRD> (2)

Settings	TRNG (310)	PROD (400)	PPRD (410)	066
Changes to client-specific objects	No changes allowed	No changes allowed	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository or Customizing	No changes to Repository or Customizing	No changes to Repository or Customizing	No changes to Repository or Customizing
Client copy protection	Protection level 0: No restriction	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting
Client role	Training	Production	Integration Integration test	SAP Early Watch

Client Setup

The following graphic outlines the setup of clients by client copy or transports in this one-system landscape.



Client Setup in PRD

All clients in the production system <PRD> are set up after the system is installed by client copy from client 000.

The clients SAND (210) and TRNG (310) are also set up again, if necessary. The system administrator does this with client copy (Transaction **SCCL**). For example, before the start of end user training, you can initialize the training client TRNG (310) again using a client copy of client QTST (300), so that each training session is brought up to an identical point.

The following table gives an overview:

Client Setup in <PRD> by the System Administrator Using Client Copy

SAP System	Source client	Target client	Reason	Time	Reference
<PRD>	CUST (200)	SAND (210)	Initial client setup	As needed	1
	QTST (300)	TRNG (310)	Initial client setup	As needed	2

The two clients QTST (300) and TRNG (310) are then also supplied with the customizing changes executed in client CUST (200). After each unit of work, each project worker who has made customizing changes copies those changes to both clients (Transaction **SCC1**).

Client Setup in <PRD> by Project Workers with Transport Requests

SAP System	Source client	Target client	Reason	Time	Reference

<PRD>	CUST (200)	QTST (300)	Customizing	As needed	A
		TRNG (310)	Customizing	As needed	B

The production client PROD (400) and the preproduction client PPRD (410) are set up after the system is installed by client copy from client 000.

The tested transport requests, the customizing changes and the developments from client CUST (200) are imported into client PPRD (410), as outlined in the table above. The integration test takes place in client PPRD (410). After completion of integration testing, the production client PROD (400) is also supplied with the transport requests from client CUST (200).

Do not delete any files in `...\TRANS\DATA` or `...\TRANS\COFILE` during the project phase. These files contain information and data for the import process.

The tables below give another overview of transporting change requests in the one-system landscape. The system administrator performs the transports. If transports are to be made into the preproduction client PPRD (410), then the project manager has to release the requests. Transports into the production client PROD (400) are made after a successful integration test.

Transport of Change Requests in a One-System Landscape

Source system	**Target system**				
SAP System	**SAP System**	**Target client**	**Reason**	**Time**	**Reference**
<PRD>	<PRD>	PPRD (410)	Customizing and developments	Integration test	D
		PROD (400)	Customizing and developments	After successful integration test	E

System and Client Settings in a Two-System Landscape

Each system has a specific role within the system landscape and there is a configuration for each role. As well, each client in a system has its own settings.

System Settings

The system change option settings defines the available Customizing and development functions in an SAP System. These settings are the basis on which the client settings are built. The following sections give you detailed information on the configuration of the individual clients.

If you own a Ready-to-Run system, the system change options for the development or production system are set according to the following tables. If you do not own a Ready-to-Run system, we recommend configuring your system according to these settings.

System Settings in a Two-System Landscape

SAP System	**Options**

System and Client Settings

Development system <DEV>	All objects (with Transport Organizer)
Production system <PRD>	Objects cannot be modified

Client Settings for DEV

The client settings define the Customizing and development functions in the SAP System. These settings do not override the system change option.

Over of Client Settings in the Development System <DEV> (Two-System Landscape)

Description of Clients in the Development System DEV (Two-System Landscape)

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

- **001: SAP standard client**

  This client is used to set up new "neutral " clients by client copy. Do **not** change or delete client 000 or client 001.

- **200: CUST: Customizing and development client**

  All changes are automatically recorded and stored in change requests in client CUST (200). This client is also used for developing programs. Cross-client customizing is only allowed in this client. You must not create any test data or perform any tests.

- **210: SAND: Sandbox client**

  This client is used for getting to know the system, trying out applications or testing customizing functions. You can perform client-specific Customizing in this client. Changes are not recorded. Any changes that you make in this client and that you want to keep in your system have to be repeated manually in the client CUST (200). The administrator can update this client at any time using a client copy from CUST (200).

- **300: QTST: Reference client for integration and training**

  This client has two uses. It is used to check the customizing and development changes before the integration test, and to set up the training client TRNG (310) before training to ensure that all training sessions begin with the same conditions. In this client you cannot make changes to Repository objects or execute cross-client customizing. The function for changing client-specific objects is also deactivated in this client.

- **310: TRNG: Training client**

  This client is used for training the end user. This client contains master and transaction data to ensure that training is as realistic as possible. Development and client-specific Customizing is not allowed. The function for changing client-specific objects is also deactivated in this client.

  Setting TRNG using client copy leads to all master and transaction data being lost. Use Transaction **SCC1** to transport change requests.

- **066: EarlyWatch client**

This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance. You must not change or delete this client.

Do **not** change or delete this client.

Client Settings in the Development System <DEV> (1)

Settings	000	001	CUST (200)	SAND (210)
Changes to client-specific objects	No changes allowed	No changes allowed	Changes are automatically recorded	Changes are automatically recorded
Changes to cross-client objects	No changes to Repository or Customizing	No changes to Repository or Customizing	Changes allowed to Repository and cross-client Customizing	No changes to Repository or Customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 0: No restrictions
Client role	SAP Reference	SAP Reference	Customizing/ development	Sandbox client

Client Settings in the Development System <DEV>(2)

Settings	QTST (300)	TRNG (310)	066
Changes to client-specific objects	No changes allowed	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository or Customizing	No changes to Repository or Customizing	No changes to Repository or Customizing
Client copy protection	Protection level 0: No restrictions	Protection level 0: No restrictions	Protection level 1: No overwriting
Client role	Test	Training	SAP EarlyWatch

Client Settings for PRD (Two-System Landscape)

The following clients are created in the production system:

Description of Clients in the Production System PRD (Two-System Landscape)

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

System and Client Settings

- **001: SAP standard client**

  This client is used to set up new "neutral " clients by client copy. Do **not** change or delete client 000 or client 001.

- **400: PROD: Production client**

  This is the production client for your company. You cannot execute any client-specific Customizing settings, nor make any changes to Repository objects.

- **410: PPRD: Preproduction client**

  Integration testing is executed in this client. Testing can begin using master and transaction data that was transferred from the old system. In the preproduction client, you cannot make changes to Repository objects or execute cross-client Customizing. The function that allows you to change client-specific objects is similarly deactivated.

- **066: EarlyWatch client**

  This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance. You must not change or delete this client.

  Do **not** change or delete this client.

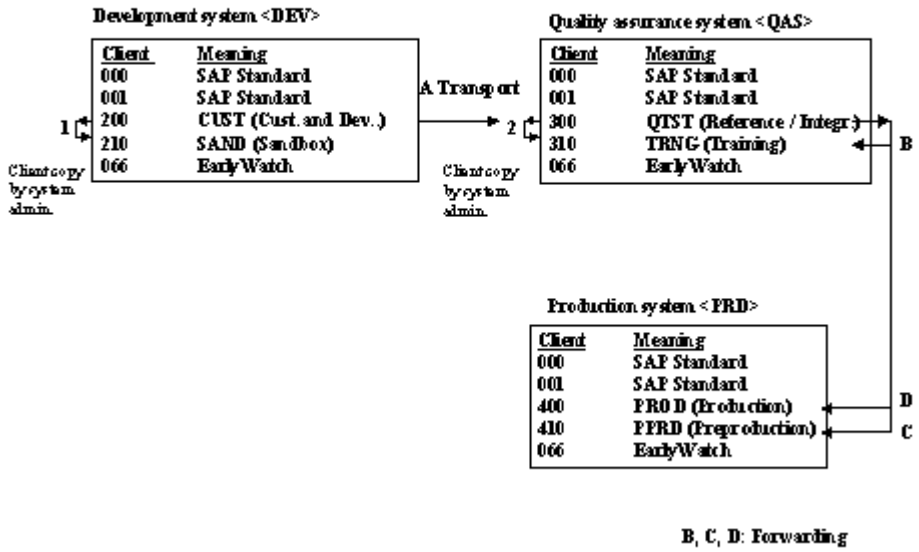
The following table gives an overview of client settings in the production system <PRD>.

Client Settings in the Production System <PRD>

Settings	000 / 001	PROD (400)	PPRD (410)	066
Changes to client-specific objects	No changes allowed	No changes allowed	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository or Customizing	No changes to Repository or Customizing	No changes to Repository or Customizing	No changes to Repository or Customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting
Client role	SAP Reference	Production	Preproduction client Integration test	SAP EarlyWatch

Client Setup

The following graphic outlines the setup of clients by client copy or transports in this two-system landscape:



Client Setup in DEV

All clients in the production system <PRD> are set up after the system is installed by client copy from client 000.

The clients SAND (210) and TRNG (310) are also set up again, if necessary. The system administrator does this with client copy (Transaction **SCCL**). For example, before the start of end user training, you can initialize the training client TRNG (310) again using a client copy of client QTST (300), so that each training session has identical starting conditions. The following table gives you an overview.

Client Setup in <DEV> Using Client Copy by the System Administrator

SAP System	Source Client	Target Client	Reason	Time	Reference
<DEV>	CUST (200)	SAND (210)	Client setup	As needed	1
	QTST (300)	TRNG (310)	Client setup	As needed	2

The two clients QTST (300) and TRNG (310) are then also supplied with the customizing changes executed in client CUST (200). After each unit of work, each project team member who has made customizing changes copies those changes to both clients (Transaction **SCC1**).

Client Setup in <DEV> Using Transport Requests by the Project Team Members

SAP System	Source Client	Target Client	Reason	Time	Reference
<DEV>	CUST (200)	QTST (300)	Customizing	As needed	A
		TRNG (310)	Customizing	As needed	B

Client Setup in PRD

The production client PROD (400) and the preproduction client PPRD (410) are set up after the system is installed by client copy from client 000.

The tested transport requests, the customizing changes and the developments from client CUST (200) are imported into client PPRD (410), as outlined in the table above. The integration test occurs in client PPRD (410). After completing integration testing, the production client PROD (400) is also supplied with the transport requests from client CUST (200) of the development system <DEV>.

Do **not** delete any files in `...\TRANS\DATA` or `...\TRANS\COFILE` during the project phase. These files contain information and data for the import process.

The tables below give another overview of transporting change requests in the two-system landscape. The system administrator performs the transports. If transports are to be made into the preproduction client PPRD (410), then the project manager has to release the requests. Transports into the production client PROD (400) are made after a successful integration test.

Transporting Change Requests in a Two-System Landscape

Source System		Target system				
SAP System	**Source Client**	**SAP System**	**Target Client**	**Reason**	**Time**	**Reference**
<DEV>	CUST (200)	<PRD>	PPRD (410)	Customizing + development	Integration test	C
<DEV>	CUST (200)	<PRD>	PROD (400)	Customizing + development	After successful integration test	D

System and Client Settings in a Three-System Landscape

Each system has a specific role within the system landscape and there is a configuration for each role. As well, each client in a system has its own settings.

System Settings

The system change option settings defines the available Customizing and development functions in an SAP System. These settings are the basis on which the client settings are built. The following sections give you detailed information on the configuration of the individual clients.

If you own a Ready-to-Run system, the system change options for the development or production system are set according to the following tables. If you do not own a Ready-to-Run system, we recommend configuring your system according to these settings.

System Settings in a Three-System Landscape

SAP System	Options

Development system <DEV>	All objects (with Transport Organizer)
Quality assurance system <QAS>	Objects cannot be modified
Production system <PRD>	Objects cannot be modified

Client Settings for DEV

The client settings define the Customizing and development functions in the SAP System. These settings do not override the system change option.

Description of Clients in the Development System DEV (Three-System Landscape)

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

- **001: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete client 000 or client 001.

- **200: CUST: Customizing and development client**

  All changes are automatically recorded and stored in change requests in client CUST (200). This client is also used for developing programs. Cross-client customizing is only allowed in this client. You must not create any test data or perform any tests.

- **210: SAND: Sandbox client**

  This client is used for getting to know the system, trying out applications or testing customizing functions. You can perform client-specific Customizing in this client. Changes are not recorded. Any changes that you make in this client and that you want to keep in your system have to be repeated manually in the client CUST (200). The administrator can update this client at any time using a client copy from CUST (200).

- **066: EarlyWatch client**

  This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance. You must not change or delete this client.

  Do **not** change or delete this client.

The following table gives an overview of client settings in the development system <DEV>:

Client Settings in the Development System <DEV> (1)

Settings	000	001	CUST (200)	SAND (210)
Changes to client-specific objects	No changes allowed	No changes allowed	Changed are automatically noted	Changed are **not** automatically noted

System and Client Settings

Changes to cross-client objects	No changes to Repository and Customizing	No changes to Repository and Customizing	Changes allowed to Repository and cross-client Customizing	No changes to Repository and Customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 0: No restrictions
Client role	SAP Reference	SAP Reference	Customizing/ development	Sandbox client

Client Settings in the Development System <DEV>(2)

Settings	**066**
Changes to client-specific objects	No changes allowed
Changes to cross-client objects	No changes to Repository and Customizing
Client copy protection	Protection level 1: No overwriting
Client role	SAP EarlyWatch

Client Settings for QAS

The client settings define the Customizing and development functions in the SAP System. These settings do not override the system change option.

Description of Clients in the Quality Assurance System QAS (Three-System Landscape)

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

- **001: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete client 000 or client 001.

- **300: QTST: Reference client for integration and training**

  This client has two uses. It is used to check the customizing and development changes before the integration test, and to set up the training client TRNG (310) before training to ensure that all training sessions begin with the same conditions. In this client you cannot make changes to Repository objects or execute cross-client customizing. The function for changing client-specific objects is also deactivated in this client.

- **310: TRNG: Training client**

This client is used for training the end user. This client contains master and transaction data to ensure that training is as realistic as possible. Development and client-specific Customizing is not allowed. The function for changing client-specific objects is also deactivated in this client.

Setting TRNG using client copy leads to all master and transaction data being lost. Use Transaction **SCC1** to transport change requests.

- **066: EarlyWatch client**

  This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance.

  Do **not** change or delete this client.

The following table gives an overview of client settings in the quality assurance system <QAS>:

Client Settings in the Quality Assurance System <QAS> (1)

Settings	000	001
Changes to client-specific objects	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository and Customizing	No changes to Repository and Customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting
Client role	SAP Reference	SAP Reference

Client Settings in the Quality Assurance System <QAS> (2)

Settings	QTST (300)	TRNG (310)	066
Changes to client-specific objects	No changes allowed	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository and Customizing	No changes to Repository and Customizing	No changes to Repository and Customizing
Client copy protection	Protection level 0: No restrictions	Protection level 0: No restrictions	Protection level 1: No overwriting
Client role	Test	Training	SAP EarlyWatch

Client Settings for PRD (Three-System Landscape)

The following clients are created in the production system:

Descriptions of Clients in the Production System PRD

- **000: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete this client.

- **001: SAP standard client**

  This client is used to set up new "neutral" clients by client copy. Do **not** change or delete client 000 or client 001.

- **400: PROD: Production client**

  This is the production client for your company. You cannot execute any client-specific Customizing settings, nor make any changes to Repository objects.

- **410: PPRD: Preproduction client**

  Integration testing is executed in this client. Testing can begin using master and transaction data that was transferred from the old system. In the preproduction client, you cannot make changes to Repository objects or execute cross-client Customizing. The function that allows you to change client-specific objects is similarly deactivated.

- **066: EarlyWatch client**

  This client is purely a service client that enables SAP to access remotely the customer system with regard to analyzing errors and performance.

  Do **not** change or delete this client.

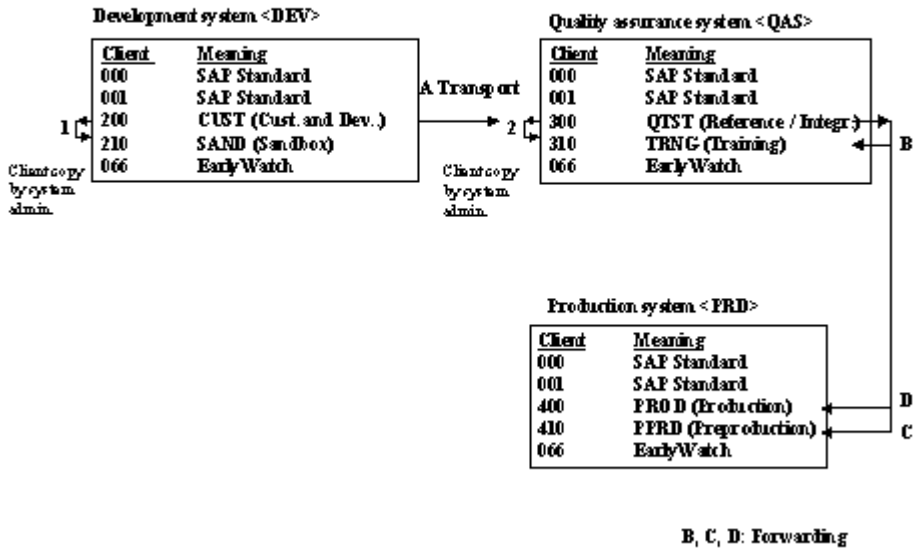
The following table gives an overview of the client settings in the production system <PRD>

Clients Settings in the Production System <PRD>

Settings	000 / 001	PROD (400)	PPRD (410)	066
Changes to client-specific objects	No changes allowed	No changes allowed	No changes allowed	No changes allowed
Changes to cross-client objects	No changes to Repository and Customizing	No changes to Repository and Customizing	No changes to Repository and Customizing	No changes to Repository and Customizing
Client copy protection	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting	Protection level 1: No overwriting
Client role	SAP Reference	Production	Preproduction client Integration test	SAP EarlyWatch

Client Setup

The following graphic outlines the setup of clients by client copy or transports in this three-system landscape:



Client Setup in DEV

All clients in the production system <PRD> are set up after the system is installed by client copy from client 000.

The clients SAND (210) and TRNG (310) are also set up again, if necessary. The system administrator does this with client copy (Transaction **SCCL**).

The following table gives you an overview.

Client Setup in <DEV> Using Client Copy by the System Administrator

SAP System	Source Client	Target Client	Reason	Time	Reference
<DEV>	CUST (200)	SAND (210)	Client setup	As needed	1

Client Setup in <QAS>

All the clients in the quality assurance system <QAS> are set up after the system is installed by client copy from client 000 from the SAP standard client 000.

The client TRNG (310) are also set up again, if necessary. The system administrator does this with client copy (Transaction **SCCL**). For example, before the start of end user training, you can initialize the training client TRNG (310) using a client copy of client QTST (300), so that each training session has identical starting conditions. The following table gives you an overview.

Client Setup in <QAS> Using Client Copy by the System Administrator

SAP System	Source Client	Target Client	Reason	Time	Reference

System and Client Settings

<QAS>	QTST (300)	TRNG (310)	Client setup	As needed	2

Both QTST (300) and TRNG (310) are also supplied with the Customizing changes and developments made in client CUST (200) in <DEV>. After each unit of work, each project team member releases the request in <DEV>. The system administrator transports the exported request into client QTST in <QAS> and after successful testing it is forwarded into client 310 in <QAS>.

Supplying Clients in <QAS> Using Transport Requests by the System Administrator

Source System		**Target System**				
SAP System	**Source Client**	**SAP System**	**Target Client**	**Reason**	**Time**	**Reference**
<DEV>	CUST (200)	<QAS>	QTST (300)	Customizing + Development	As needed	A (Transport)
<DEV>	CUST (200)	<QAS>	TRNG (310)	Customizing + Development	As needed	B (Forwarding)

Client Setup in PRD

The production client PROD (400) and the preproduction client PPRD (410) are set up after the system is installed by client copy from client 000.

The tested transport requests, the customizing changes and the developments from client CUST (200) are imported into client PPRD (410), as outlined in the table above. The integration test occurs in client PPRD (410). After completing integration testing, the production client PROD (400) is also supplied with the transport requests from client CUST (200) of the development system <DEV>. In both cases Transport A is forwarded.

Do **not** delete any files in `...\TRANS\DATA` or `...\TRANS\COFILE` during the project phase. These files contain information and data for the import process.

The tables below give another overview of transporting change requests in the three-system landscape. The system administrator transports the requests. If transports are to be made into the preproduction client PPRD (410), the requests must already have been imported into client 300 in <QAS> and tested there. Transports into the production client PROD (400) are made after a successful integration test.

Transporting Change requests in a Three System Landscape

Source System		**Target System**				
SAP System	**Source Client**	**SAP System**	**Target Client**	**Reason**	**Time**	**Reference**

<DEV>	CUST (200)	<PRD>	PPRD (410)	Customizing + development	Integration test	C (Forwarding)
<DEV>	CUST (200)	<PRD>	PROD (400)	Customizing + development	After successful integration test	D (Forwarding)

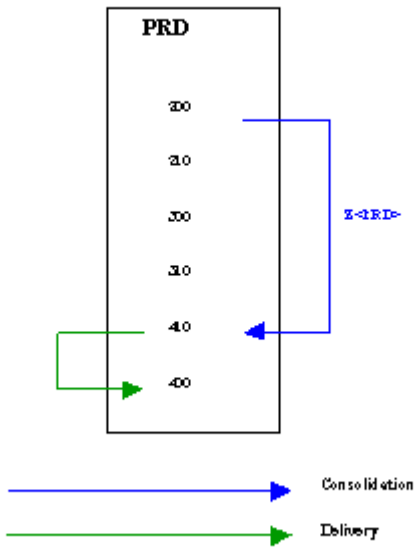
Extended Transport Control in Ready-to-Run Systems

Use

Extended Transport Control lets you work with a client-specific standard transport layer. Extended Transport Control is already activated if you have a Ready-to-Run R/3 System.

One-System Landscape

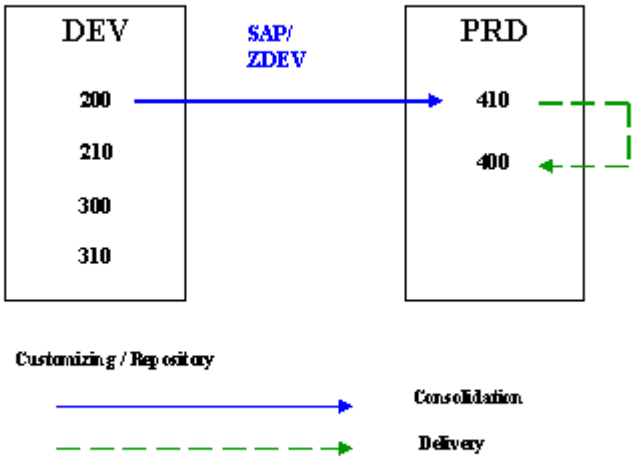
This standard transport layer is called Z<PRD> in Ready-to-Run Systems. The layer defines the transport targets for change requests. If Customizing or development requests are created in client 200, the default value for the transport target (client 410) is set by the client-specific transport layer Z<PRD>. This transport layer is not defined in any other clients. This means that any requests created are local requests.



After being imported into client 410, the transports are automatically placed in the import queue of client 400 by means of the delivery route of the transport layer Z<PRD>. You can then import these transports.

Two-System Landscape

The client-specific transport layer is called Z<DEV> in Ready-to-Run Systems and defines the transport targets for requests from the development system:



If Customizing or development requests are created in client 200, the default value for the transport target (client 410 in the system <PRD>) is set by the client-specific transport layer ZDEV. This transport layer is not defined in any other clients. This means that any requests created are local requests.

After being imported into client 410, the transports are automatically placed in the import queue of client 400 by means of the delivery route of the transport layer Z<DEV>. You can then import these transports.

See also:

SAP Library

- Extended Transport Control [Extern]

The Team Leader's Responsibilities

The tasks of the system administrator, the project manager and others is explained in detail in the individual phases. The following section summarizes their responsibilities.

System Administrator

The system administrator creates the users for the project members and assigns them authorizations. The system administrator is also responsible for regularly updating the sandbox client SAND (210) and the training client TRNG (310) using a client copy.

a) One-System Landscape:

The system administrator must also transport the customizing settings and development changes into the preproduction client PPRD (410) and the production client PROD (400), if these clients are ready for productive operation with your SAP R/3 System.

b) Two-System Landscape:

The system administrator must also transport the customizing settings and development changes between the systems <DEV> and <PRD> and for importing changes into the preproduction client PPRD (410) and the production client PROD (400), if these clients are ready for productive operation with your SAP R/3 System.

c) Three-System Landscape

In addition to the tasks under b), the system administrator must also import the Customizing settings and development changes into the clients 300 and 310 in the system <QAS>.

Project Manager

The project manager must create and release the Customizing and development requests.

The project manager must administrate the Transport Organizer.

Application Consultants

The application consultant performs the actual Customizing. Then the consultant releases the task containing all customizing settings.

a) One-System Landscape

After the Customizing settings have been imported into client PPRD (410), the consultant must check if all the Customizing settings function in the environment for the system <PRD>.

b) Two-System Landscape

The consultant makes the actual Customizing settings in the system <DEV>.

After the Customizing settings have been imported into the system <PRD>, the consultant must check if all the Customizing settings function in the environment for the system <PRD>.

c) Three-System Landscape

The consultant makes the actual Customizing settings in the system <DEV>.

After the Customizing settings have been imported into the system <QAS>, the consultant must check if all the Customizing settings function in the environment for the system <QAS>.

The consultant must also test these settings in the production environment, as part of the integration tests in client 410 of the system <PRD>.

ABAP Developers

The ABAP developer makes all the development changes in system <PRD> and all the preliminary repairs found in the SAPNet - R/3 Frontend.

After a development project is over, the developer releases the task containing all the changes made.

a) One-System Landscape

Development changes and corrections are made in the system <PRD>.

Due to the special constellation in a one-system landscape, all the changes made by the developer are immediately effective in the production client.

After each development change, the developer must check whether all changes work in the production client PROD (400).

b) Two-System Landscape

Development changes and corrections are made in the system <DEV>. After a development project is over, the developer releases the task containing all the changes made.

After the development changes have been imported into the system <PRD>, the consultant must check if all the development changes function in the environment for the system <PRD>.

c) Three-System Landscape

Development changes and corrections are made in the system <DEV>. After a development project is over, the developer releases the task containing all the changes made.

After the development changes have been imported into the system <QAS>, the consultant must check if all the development changes function in the environment for the system <QAS>.

Checking the Customizing and Development Environment

The system administrator is normally responsible for various configuration and checking tasks that are required for customizing and adding new functionality to the SAP System. For example, the Transport Management System (TMS, Transaction **STMS**) must be installed.

If you own a Ready-to-Run System, the configuration is checked and tested before delivery to the customer.

If you do not own a Ready-to-Run System or add more SAP Systems to your system landscape at any given time, you must configure and check the customizing and development environment again. The SAP standard documentation for the Transport Management System explains the procedure for adding an SAP System. For these kinds of changes, your are supported by a Basis consultant. If you need help, consult SAP or your system reseller.

Requirements for Customizing and Development

The system administrator and project manager are responsible for the following tasks:

- Creating R/3 users for each project team member
- Assigning an R/3 authorization level for each of these users

Creating users and assigning authorizations for the project team members is a one-time task performed by the system administrator at the start of the project.

After the system administrator has defined the users for all the project team members, The project manager must create the Customizing and development requests for the individual projects.

Read the following guidelines when you create requests. The guidelines depend on the type of the request:

- Customizing Requests [Seite 58]
- Development Requests [Seite 61]
- Requests for Repairs [Seite 68]

Customizing and development requests help to group project team members who are working in the same Customizing or development area. This grouping prevents project team members from different groups working on the same Repository objects at the same time.

A **request for repairs** is needed if you find a solution to a problem in SAPNet -R/3 Frontend that involves a preliminary correction and not a Support Package. For more information on importing a preliminary correction into your systems, see Importing Preliminary Transports from External Systems (SAP/sapservX) [Seite 156].

Creating Customizing and Development Requests

When you create individual Customizing and development requests, the project team member responsible for that area is assigned the respective request. The assignment process generates separate Customizing and development tasks for all the project members.

a) One-System Landscape

All changes made by project team members in <PRD> are recorded. The changes can be transported later into the pre-production clients.

If necessary, the existing requests can be assigned to the project members at a later time. This is usually done just once, by the project leader at the start of the project, however,???

After you have transported your Customizing and development work, you must test it again. If problems occur in the pre-production client PPRD (410), you must make changes in the Customizing and development client CUST (200) and then transport them into the pre-production client PPRD (410). To do this, you must create new requests and tasks.

b) Two-System Landscape

Change tasks record all changes made by project team members in the system <DEV>. These changes can then be transported later into the system <PRD>.

Requirements for Customizing and Development

If necessary, you can also assign project team members to existing requests at a later time.

After you have transported your Customizing and development work from the system <DEV> into the system <PRD>, you need to test it again. If problems occur in system <PRD>, make changes in system <DEV> and then transport them into the system <PRD>. To do this, you must create new requests and tasks.

See also:

- System Administrator Tasks [Seite 49]
- Project Manager Tasks [Seite 57]

c) Three-System Landscape

Change tasks record all changes made by project team members in the system <DEV>. These changes can then be transported later into the systems <QAS> and <PRD>.

If necessary, you can also assign project team members to existing requests at a later time.

After you have transported your Customizing and development work from the system <DEV> into the system <QAS>, you need to test it again. If problems occur in system <QAS>, make changes in system <DEV> and then transport them into the system <QAS>. To do this, you must create new requests and tasks. Only transport requests into the system <PRD> if they have been tested successfully in <QAS>. If you need to create a new request to remove any errors, it is important that you import all the requests into the production system in the correct order.

You can do this in two ways:

1. The request that removes the errors is transported into the production system directly after the request that contains the errors. This prevents the errors from being used productively in the production system.
2. All objects from the request with the errors are integrated into the request that removes the errors. The request with the errors is not transported into the production system. Only the request that solves the errors is transported into <PRD>, after it has been tested successfully in <QAS>.

System Administrator Tasks

The system administrator must perform the following tasks in the development system <DEV> (system <PRD> in a one-system landscape).

R/3: Creating Development Classes [Seite 50]

R/3: Defining Users for the Project Team [Seite 51]

R/3: Assigning CO and WBO Authorizations [Seite 53]

R/3: Creating Development Classes

Procedure

1. Log on in client 200. You can only create development classes in this client, whose objects will be transported.
2. Choose  or enter Transaction **SE80**. The initial screen of the *Object Navigator* appears.
3. In the field *Single object*, choose *Other objects*.
4. Choose Edit. The screen *Other Development Objects* appears.
5. In the field *Development class* enter a character description beginning with **Y** or **Z**.
6. *Choose Development object → Create.*

   The dialog box *Create Development Class* appears.
7. Enter a short text. Ensure that *Z<DEV>* is entered in the field *Transport layer*. Leave the default values in all the other fields.
8. Choose  .

Result

The development class has been created.

See also:

SAP Library

- Object Navigator [Extern]

R/3: Defining Users for the Project Team

Users are client-specific. Therefore, you must define a separate user in each client.

This section only deals with the CO and WBO authorizations.

If the users want to use other functions in the R/3 System, they require additional R/3 profiles and authorizations.

For more information, see the section on example user names and profiles delivered with this system.

One-System Landscape

Define users for the project team in the following clients:

- Clients 200, 300, 310 and 410

Two-System Landscape

Define users for the project team in the following clients:

- <DEV>: Clients 200, 210, 300 and 310
- <PRD>: Client 410.

Three-System Landscape

Define users for the project team in the following clients:

- <DEV>: Clients 200 and 210
- <QAS>: Clients 300 and 310
- <PRD>: Client 410.

Procedure

1. Click  or choose *Tools* → *Administration* → *User maintenance* → *Users* (Transaction SU01).
2. Enter a unique user name in the field *User*.
3. Click  . The *Maintain User* screen appears.
4. Choose the tab *Address* and enter at least the name of the user.
5. Choose the tab *Logon data* and enter a password in the field *Initial password*.
6. Choose the tab *Defaults* and set the default values for the user (*StartMenu*, *Logon language*, *OutputDevice*).Enter the data you want or leave the fields empty. You can also enter the data at a later time.
7. Choose the tab *Profiles* and enter one of the following profiles for *Authorization profiles*:
   - CO and WBO System Administrator Authorizations [Seite 54]
   - CO and WBO Project Manager Authorizations [Seite 55]

- CO and WBO Project Member Authorizations [Seite 56]

8. Leave the default selections in all the other fields.
9. Click  .

R/3: Assigning CO and WBO Authorizations

1. Click  or choose *Tools* → *Administration* → *User maintenance* → *Users* (or Transaction **SU01**).
2. Enter a unique user name in the field *User*.
3. Click  .
4. Choose the tab *Profiles* and enter one of the following profiles for *Authorization profiles*:
   - CO and WBO System Administrator Authorizations [Seite 54]
   - CO and WBO Project Manager Authorizations [Seite 55]
   - CO and WBO Project Member Authorizations [Seite 56]
5. Leave the default values in all the other fields.
6. Click  .
7. Click  .

System Administrator Authorizations

The system administrator requires the following CO and WBO profile:

- **S_A.SYSTEM** – Operator

This profile also contains the CO and WBO authorizations:

- **S_CTS_ADMIN** – Workbench Organizer and Transport System

If you want the system administrator to have complete authorizations, assign the following R/3 profiles to him or her:

- **SAP_ALL** – All authorizations for the R/3 System
- **SAP_NEW** – All authorizations for newly created objects

This gives the system administrator complete authorization for this R/3 System release and all new authorizations delivered with later releases.

Therefore, the individual CO and WBO authorizations do not need to be assigned.

Project Manager Authorizations

The project manager requires the following CO and WBO profile:

- **S_A.CUSTOMIZ** – Customizing (for All System Setting Activities)

This profile also contains the CO and WBO authorizations:

- **S_CTS_PROJEC** (Change and Transport System)
- **S_CTS_PIECLS** Edit object list

Project Member Authorizations

Project members – application consultants and ABAP developers – require the following CO and WBO profile:

- **S_A.DEVELOP** – Developer

This profile also contains the CO and WBO authorizations:

- **S_CTS_DEVELO** (Change and Transport System)

Project Manager Tasks

The project manager must perform the following tasks in the development system <DEV> (system <PRD> in a one-system landscape).

R/3: Creating Customizing Requests for the Project Team [Seite 59]

R/3: Creating Project Team Development Requests [Seite 63]

R/3: Assigning Requests to the Project Team Members [Seite 65]

R/3: Assigning Standard Customizing Requests [Seite 66]

R/3: Assigning Standard Development Requests [Seite 67]

Customizing Requests

Since the Implementation Guide (IMG) is used to control the system Customizing, it makes sense that the Customizing requests reflect the project structure created in the IMG.

Important points for managing Customizing requests:

- Create a separate Customizing request for each group of people working on the same Customizing area (on the same IMG project).
- Enter a short text identifying the project. (Example: *FI/CO Customizing*).
- If the project is implemented in several phases, specify which phase it is in the short text (Example: *FI/CO Customizing – Phase 1*).
- Since there are probably several requests required to complete a work unit, SAP recommends specifying the number of requests in the short text (Example: *FI/CO Customizing – Phase 1 – Request 001*).

The suggested naming convention simplifies the administration of the Customizing Organizer and the Workbench Organizer. This is particularly important for the order of the requests.

The order of the requests must be known if the transports have to be imported into a new system or have to be re-executed due to system problems.

Normally, most of the Customizing changes are transported simultaneously at the beginning of the pre-production phase. However, if problems occur in the systems <QAS> or <PRD>, you have to create more requests and the transport the changed Customizing settings. This process is repeated until the target system returns satisfactory test results.

R/3: Creating Customizing Requests for the Project Team

Prerequisites

If your system is in a two-system or three-system landscape, log on to client 200 of the development system as the project manager.

If your system is in a one-system landscape, log on to client 200 of the production system <PRD>.

Log onto the R/3 System as the project manager.

Procedure

1. Choose  or call Transaction SE10. The initial screen of the Customizing Organizer appears.
2. Select the field *Customizing* only under *Category*.
3. Select the field *Modifiable* only under *Request status*.
4. Leave the default values in all the other fields.
5. Click  .

   An overview of all requests that match the selection criteria appears.
6. Click  .
7. Enter a description of the request in the field *Short description*.

   Follow the naming conventions for Customizing and development requests:
8. In the table *Tasks* enter the user names of the application consultants.
9. Make sure that the correct transport target is entered for the request in the field Target. If you have a one-system or two-system landscape, the target must be <*PRD*>*.410*. If you have a three-system landscape, the target must be <QAS>.300.
10. Click  .
11. The new Customizing request appears. The number of the Customizing request is <*PRD*>*K*<*nnnnnn*> in a one-system landscape and <*DEV*>*K*<*nnnnnn*> in a two-system or three-system landscape, where <*nnnnnn*> is a unique 6-digit number. The system automatically generates this number.

    A separate Customizing task is created for each application consultant assigned to this Customizing request. These Customizing tasks contain all the Customizing changes that each application consultant makes.
12. Click  on the left of the relevant Customizing request.

R/3: Creating Customizing Requests for the Project Team

The Customizing tasks for this Customizing request appear (one task for each application consultant).

See also:

SAP Library

- Working with the Transport Organizer [Extern]

Development Requests

Important points for managing development requests:

- Create a separate development request (a separate report) for each development unit.
- Enter a short text identifying the project. (Example: *Status Report*).
- If the project is implemented in several phases, specify which phase it is in the short text (Example: *Status Report – Phase 1*).

Since there are probably several requests required to complete a work unit, SAP recommends specifying the number of requests in the short text (Example: *Status Report – Phase 1 – Request 001*).

The suggested naming convention simplifies the administrating the Customizing Organizer and the Workbench Organizer. This is particularly important for the order of the requests. The order of the requests must be known if the transports have to be imported into a new system or have to be re-executed due to system problems.

One-System Landscape

Only use a one-system landscape for systems where very little or no development work takes place. This development work should only include the creation of new ABAP report programs, or small enhancements to the SAP System.

The special configuration of a one-system landscape means that all changes made by the developer become effective immediately in the production client.

The largest part of a development project is usually transported in a single request at the beginning of the pre-production phase. However, if any problems occur, you must create more requests. Repeat this until the tests are free from errors.

Two-System Landscape

SAP recommends the two-system landscape for systems where very little or no development work takes place. This development work should only include the creation of new ABAP report programs, or small enhancements to the SAP System.

The largest part of a development project is usually transported in a single request at the beginning of the pre-production phase. This request is transported from <DEV> to <PRD>. However, if any problems occur in the system <PRD>, you must create more requests in the system <DEV>. Repeat this until the tests in <PRD> are free from errors.

Three-System Landscape

SAP recommends the three-system landscape for systems where a lot of development takes place. This development can include the creation of ABAP report programs, or larger enhancements to the SAP System.

The development project can include multiple requests, according to its size. The requests are transported as different modules at different times into the systems <QAS> and <PRD>. However, if any problems occur in the system <QAS>, you must create more requests and then

Development Requests

transport your changes into <QAS>. Repeat this until the tests in <QAS> are free from errors. Only then can you transport the requests into the production system <PRD>. You must make sure that the requests you transport into <PRD> are consistent with each other. You must import the original transport requests and any subsequent cleanup requests into <PRD>.

See also:

SAP Library

- Working with the Transport Organizer [Extern]

R/3: Creating Project Team Development Requests

Prerequisites

If your system is in a two-system or three-system landscape, log on to client 200 of the development system as the project manager.

If your system is in a one-system landscape, log on to client 200 of the production system <PRD>.

Procedure

1. Choose  or call Transaction SE09. The initial screen of the Workbench Organizer appears.
2. Select the field *Transportable* only under *Request type*.
3. Select the field *Modifiable* only under *Request status*.
4. Leave the default selections in all the other fields.
5. Click  . An overview of all requests that match the selection criteria appears.
6. Click  . A dialog box appears where you can classify your request.
7. Choose *Transportable change request*. Transportable change requests record changes to transportable objects of the ABAP Workbench. When a request is released, the changed objects are exported and then imported into the quality assurance system <QAS> or the production system <PRD>.

   The screen *Create request* appears.
8. Enter a description of the request in the field *Short description*.

   If you have a one-system or two-system landscape, the target must be <PRD>.410. If you have a three-system landscape, the target must be <QAS>.300.

   Follow the naming conventions:

   - Development requests [Seite 61]
   - Requests for repairs [Seite 68]

   Enter the user names of the ABAP developers in the table *Tasks*. Remember that developers must be registered at SAP. For more information, see Registering Developers and SAP Objects Using SSCR [Seite 164].
9. Click  .

   The new development request appears. The number of this development request is *<DEV>K<nnnnnn>*, where *<nnnnnn>* is a unique 6-digit number. The system automatically generates this number. A separate development task is created for each ABAP developer assigned a development request. These tasks contain all the changes that the ABAP developers make in the system <DEV> (two-system or three-system

landscape, the development requests have the number <*PRD*>K<*nnnnnn*> in a one-system landscape).

10. Click  on the left of the relevant Customizing request.

    The tasks for these development requests are displayed (one task for each ABAP developer).

See also:

SAP Library:

- Workbench Organizer [Extern]
- Creating a Request [Extern]

R/3: Assigning Requests to Project Team Members

Prerequisites

You are logged on to the SAP System as project manager.

Procedure

1. Choose  or enter Transaction **SE10**. The initial screen of the Workbench Organizer appears.
2. Select both the fields *Customizing* and *Workbench* under *Category*.
3. Select the field *Modifiable* only under *Request status*.
4. Leave the default selections in all the other fields.
5. Choose  .

   An overview of all requests that match the selection criteria appears.
6. Click the relevant Customizing or development request once to select it.
7. In the menu, choose *Request/task* → *Request* → *Add user*.

   The dialog box *Add user* appears.
8. In the field *Create task for user* enter the user name of an application consultant for Customizing requests; for development requests, enter the user name of an ABAP developer
9. Choose  .

Result

A task has been created for the request for the specified user.

See also:

SAP Library:

- Creating a Request [Extern]

R/3: Assigning Standard Customizing Requests

Procedure

1. Click  or call Transaction SE10. The initial screen of the Customizing Organizer appears.
2. Select the field *Customizing* only under *Category*.
3. Select the field *Modifiable* only under *Request status*.
4. Leave all the other fields with the default values.
5. Click  .

   An overview is displayed of all requests that match the selection criteria.
6. Click once on the relevant Customizing request to select it.
7. In the menu, choose *Request/task* → *Standard request* → *Set*.

   The Customizing request is now highlighted. It is now the standard request in which all changes made by the application consultants are entered.
8. In the menu, choose *Request/task* → *Standard request* → *Validity period*.
9. Enter the date by which you want the Customizing work to be completed.
10. Click  .

    After the date entered above has passed, this Customizing request will no longer be set as the standard request. At this point the application consultant is prompted to enter a new Customizing request number when making changes. The application consultant can create a new Customizing request, or change the validity period.

See also:

SAP Library:

- Functions in the Request Overview [Extern]

R/3: Assigning Standard Development Requests

Procedure

1. Choose  or enter Transaction SE09. The initial screen of the Workbench Organizer appears.
2. Select the field *Transportable* only under *Request type*.
3. Select the field *Modifiable* only under *Request status*.
4. Leave all the other fields with the default values.
5. Click  .

   An overview of all requests that match the selection criteria appears.
6. Click once on the relevant development request.
7. In the menu, choose *Request/task* → *Standard request* → *Set*.

   The development request is now highlighted. It is now the default request in which all changes made by the ABAP developers are entered.
8. In the menu, choose *Request/task* → *Standard request* → *Validity period*.
9. Enter the date by which you want the development work to be completed.
10. Click  .

Result

After the date entered above has passed, this development request will no longer be set as the standard request. At this point the developer is prompted to enter a new Customizing request number when making changes. The developer can create a new Customizing request, or change the validity period.

See also:

SAP Library

- Functions in the Request Overview [Extern]

Requests for Repairs

Use

Request for repairs are created as they are needed. If you need to make changes to the SAP standard software, check in SAPNet - R/3 Frontend to see if there is a Support Package or a preliminary correction for the problem.

If you can correct the problem using a Support Package, SAP recommends that you apply the Support Package instead of making a repair. Support Packages are explained later in this documentation (see Requesting Support Packages [Seite 152]).

Procedure

You need to perform the following actions when you create repair requests:

- Create a separate request for each relevant SAPNet Note.
- Enter a short text identifying the project (Example: *MSAP1F66 Fix*)
- Specify the number of the SAPNet Note in the request description. (Example: *MSAP1F66 Fix – OSS/063456*)
- Specify in the short text the SAP Release where the problem is solved. (Example: *MSAP1F66 Fix – OSS:063456 – Corrected: 4.5A*)
- If you are using an external repair system for error logging, specify the error number in the request description.(Example: *MSAP1F66 Fix – OSS:063456 – Corrected: 4.5A – No.:123*)

Specify the number of the SAPNet Note and the SAP Release in which the error was corrected. This is particularly important because changes to SAP objects affect any later upgrades. For all repairs, you must yourself ensure that the changes are not overwritten by the next upgrade. The number of the SAPNet Note and the SAP Release assists the person upgrading the system.

One-System Landscape

If a preliminary correction exists, make the changes in your Customizing and development client CUST (200).

After you have tested the repair in client QTST (300), transport the changes into the client PROD (400).

The special configuration of a one-system landscape means that all changes made by the developer become effective immediately in the production client.

Two-System Landscape

If a preliminary correction exists, make the changes in client CUST (200) in the system <DEV>.

After you have tested the repair in the system <DEV> in client QTST (300), transport the changes into client 400 in the system <PRD>, and then test them again.

Three-System Landscape

If a preliminary correction exists, make the changes in client CUST (200) in the system <DEV>.

Then transport the correction request into the system <QAS> and test the changes in client QTST (300). After the tests, transport the requests into client 400 in the system <PRD>.

Customizing, Development and Testing

Use

In this phase of the project the application consultants perform the Customizing activities that are required to tailor the system to the needs of your company.

The project team members (application consultants and ABAP developers) and the system administrator are responsible for the tasks described in this section.

ABAP developers develop customer reports, create R/3 enhancements (if necessary) and apply any preliminary repairs that have been found in the SAPNet - R/3 Frontend.

Process Flow

If you have a one-system landscape, you only have one system in which you can develop and test - <PRD>. In a two-system landscape, customizers and developers can test their work in <DEV>. In a three-system landscape, the test takes place in the system <QAS>.

One-System and Two-System Landscapes

After a unit of work has been completed application consultants and ABAP developers perform the following tasks:

- Copy the completed Customizing changes from the Customizing and development clients (200) to the quality assurance client (300). Development changes (ABAP programs and accompanying objects) are client-independent. They are automatically available in each client in the system.
- Copy the completed Customizing changes from the Customizing and development clients (200) to the training client (310).
- Test the completed work unit in client 300. Normally, the customizers and developers perform the following two types of tests:
  - Testing individual units to verify that the work unit just completed functions properly. For example, the developer could check if a new report runs correctly. A customizer can ensure that all the settings for a particular R/3 transaction are correct.
  - Quality assurance tests ensure that the SAP System works as planned as a whole (or just particular R/3 applications) with the newly added work unit. Customizers, developers and any future R/3 users use the quality assurance tests to test various business processes from their company, for example, taking an order, to ensure that they function properly.

Three-System Landscape

After a unit of work has been completed, application consultants, ABAP developers and system administrators perform the following tasks:

- Release the completed Customizing changes in the Customizing and development client (200) (application consultants).
- Release the development changes (ABAP programs and accompanying objects) (developers). Import the transport requests into the quality assurance client (300) of the system <QAS>.

- Release accompanying Customizing and Workbench requests (project team leader)
- Test the completed work unit in client 300. Normally, the customizers and developers perform the following two types of tests:
  - Testing individual units to verify that the work unit just completed functions properly. For example, the developer could check if a new report runs correctly. A customizer can ensure that all the settings for a particular R/3 transaction are correct.
  - Quality assurance tests ensure that the SAP System works as planned as a whole (or just particular R/3 applications) with the newly added work unit. Customizers, developers and any future R/3 users use the quality assurance tests to test various business processes from their company, for example, taking an order, to ensure that they function properly.
- Import the tested requests into the training client (310) (system administrator).

Tasks need to be done in a three-system landscape at this point, which are not due in a one-system or two-system landscape until the phase *Pre-Production Testing*. These include the release of the development and Customizing tasks by the project team members and the release of the development and Customizing requests by the project manager. The system administrator must also transport the requests into the quality assurance client (300).

When testing the individual units and performing the quality assurance tests, the customizers and developers may see that they have to make additional changes or corrections. The project members can make these additional changes within the Customizing and development requests created for them, in one-system and two-system landscapes.

If the requests have been released and transported, new Customizing and development requests are required for each new task that has to be performed. The entire process of creating requests, assigning tasks to the individual team members and testing and transporting requests starts again from the beginning.

New requests must be created in three-system landscapes for any additional corrections, since the requests need to be released for transport into the quality assurance system. For more details of the tasks, see Project Member Tasks [Seite 73].

During the Customizing and development phase, the system administrator is responsible for regularly updating the “Sandbox” client (210). (The Sandbox is a practice client where project members can test Customizing and development changes, before they complete a work unit.)

This task should be performed weekly. According to the scope of the work performed in your system and the training requirements, the system administrator can copy the test client regularly to the training client (310).

The system administrator is responsible for transporting requests in a three-system landscape. This procedure is described in the section System Administrator Tasks [Seite 82].

Result

The phase *Customizing, Development and Testing* is completed if all the requirements of all the company managers and the future SAP users are fulfilled and the quality assurance tests show that all the Customizing and development changes function as planned.

The phase *Customizing, Development and Testing* demonstrates the advantage of a three-system landscape. The landscape allows project team members to transport and test small,

Customizing, Development and Testing

complete development and Customizing units. It is simpler to test smaller units if any errors occur.

A three-system landscape is also useful if developments are made in projects, since individual projects can be developed and released at different times. This helps to avoid any side effects when testing.

Project Member Tasks

In this phase of a project, the project members make their Customizing and development changes in the development system <DEV> (<PRD> in a one-system landscape).

After completion of each work unit, the project members in a one-system or two-system landscape are responsible for copying every request to the quality assurance (300) and training (310) clients, where they must test their changes.

In a three-system landscape, the project members release their request for transport (see *Pre-Production Testing* - Project Member Tasks [Seite 87]).

Only when all Customizing and development work has been completed and tested, can you begin the Pre-Production Testing [Seite 85].

See also:

R/3: Performing Development Activities [Seite 74]

R/3: Performing Customizing Activities [Seite 75]

R/3: Copying and Testing Customizing and Development Changes [Seite 76]

R/3: Unit and Quality-Assurance Testing [Seite 80]

R/3: Performing Development Activities

Client 200 is the only source of any changes that you make to your SAP System.

One-System Landscape

Make your development changes in client 200 in <PRD>.

The special configuration of a one-system landscape means that all changes made by the developer become effective immediately in the production client.

Two-System Landscape and Three-System Landscape

Make your development changes in client 200 in <DEV>.

This information does not cover the process in which you add new reports and programs (development activities). It does describe the chronological order of various Customizing Organizer and Workbench Organizer tasks, as well as the responsibilities of the different team members.

R/3: Performing Customizing Activities

Make your Customizing changes in client 200 in <DEV> (<PRD> in a one-system landscape). Client 200 is the only source of any changes that you make to your SAP System.

This information does not cover the process in which you customize SAP applications. It does describe the chronological order of various Customizing Organizer and Workbench Organizer tasks, as well as the responsibilities of the different team members.

See also:

SAP Library:

- Customizing [Extern]

R/3: Copying and Testing Customizing and Development Changes

Use

After completion of each work unit, the project members in one-system and two-system landscapes are responsible for copying every request from the Customizing and development client (200) to the quality assurance (300) and training (310) clients. The project members must test their changes in client 300.

In a three-system landscape, the project members release their request for transport (see *Preproduction Testing* - Project Member Tasks [Seite 87]).

Procedure

1. Complete the Customizing or development project in client 200 (in system <DEV> for two-system and three-system landscapes, in system <PRD> in a one-system landscape). Make all changes with mutual dependencies at the same time and in the same project.
2. Perform the following steps in accordance with your system landscape.

   One-System or Two-System Landscape:

   Copy each transport request so that the changes are copied from client 200 to the test client 300 and the training client 310. Development changes are cross-client and apply automatically to every client. See R/3: Copying Changes to the Test and Training Clients [Seite 77] and R/3: Checking Client Copy Logs [Seite 84].

   Three-System Landscape:

   Release your Customizing or development task.
3. If you need to make more changes, make them in client 200 (in system <DEV> for two-system and three-system landscapes, in system <PRD> in a one-system landscape). Then copy the changes into the clients 300 and 310 (one-system and two-system landscapes) or release the request (three-system landscape).

When you copy individual change requests, you must make sure that all changes that are logically connected to each other are copied together. For example, if you have made connected corrections in two different Customizing requests, then you must copy both requests into the test client. Errors occur if you only copy the changes.

Three-System Landscape

The project managers release the development and Customizing requests (see the phase *Preproduction Testing* - Project Manager Tasks [Seite 92]). The system administrator imports the requests into the quality assurance client (300) in <QAS> (see the phase *Preproduction Testing* - System Administrator Tasks [Seite 95]). If all tests are successful, you can import the changes into the production system <PRD> (see Preproduction Testing [Seite 85]).

R/3: Copying Changes to the Test and Training Clients

Use

One-System and Two-System Landscape

Copy each of your completed Customizing requests to the quality assurance (300) and training (310) clients. You must perform this procedure for each client. Development changes are automatically available in clients 300 and 310.

Three-System Landscape

The system administrator transports the Customizing and development requests into clients 300 and 310 in the system <QAS>. Development changes are effective in client 310 as soon as they are transported into client 300.

Prerequisites

One-System and Two-System Landscape

You must be logged on to the target client of the correct system:

- Client 300 for quality assurance and tests
- Client 310 for training
- System <DEV> in a two-system landscape
- System <PRD> in a one-system landscape

Three-System Landscape

You must be logged on as the system administrator (see phase *Pre-Production Testing* - System Administrator Tasks). Then use Transaction STMS to transport the requests into the system <QAS>.

Procedure

One-System and Two-System Landscape

1. In the *System Administration Assistant*, click  or call Transaction SCC1.
2. Enter `200` in the *Source client* field.
3. Choose the transport request you want to copy and enter it in the *Transport request* field.
4. Click  next to the field to display the available requests.
5. Optional: Mark the *Test run* box if you would like to test the copy before actually carrying it out. *Test run* simulates the copy and shows you a test results log. If you are satisfied (the log reports *program ran successfully* in the results list), then you can repeat the copy with *Test run* deactivated.
6. If you have not released the tasks in the transport request, but want to test their contents, select the field *Incl. tasks for request*.

After Copying

One-System and Two-System Landscape

Perform the following steps:

1. Choose *Goto* → *Display logs.*
2. Click *Transport requests* in the overview.
3. Double-click the target client.

Result

If the copy was successful, the message *Successfully completed* appears.

See also:

SAP Library

- Copying Transport Requests Within the Same System [Extern]
- R/3: Checking Client Copy Logs [Seite 84]

R/3: Checking Client Copy Logs

Use

Always check the client copy log after the client copy, whether you copied a single transport request or the whole client.

Process Flow

- Follow the procedure Displaying Copy Logs [Extern].
- If the copy was successful, the *Status* text will show the message *Successfully completed*.
- If there were any errors, then try to analyze the problem using the information in the error log and in the error messages. Clicking on a log displays the next level in the log, all the way down to the individual actions that were carried out. Repeat the client copy if necessary.
- This is not necessary in a three-system landscape, since a transport imports the requests in to the quality assurance client (300) or training client (310).

R/3: Unit Testing and Quality Assurance

Use

You must test any Customizing and development changes before you transport them into the production system. To do this, copy the changes from development client 200 in your development system <DEV> to the quality assurance and test client 300. (In a one-system landscape, make all changes in the system <PRD>). In a three-system landscape, release the changes and import the transport requests into client 300 in <QAS>. To support training, also transport the changes into client 310.

If you have made connected corrections in two different Customizing requests, then you must copy both requests into the test client. Errors will occur if you only copy the changes.

Procedure

One-System and Two-System Landscape

1. Complete the Customizing or development project in client 200. Make all changes with mutual dependencies at the same time and in the same project.
2. Copy each transport request so that the changes are copied from client 200 to the test client 300 and the training client 300. See R/3: Copying Changes to the Test and Training Client [Seite 77].
3. If you need to correct your changes, do this in client 200. Then copy the changes to clients 300 and 310.

   When you copy individual change requests, you must make sure that all changes that are logically connected to each other are copied together.

Three-System Landscape

1. Complete the Customizing or development project in client 200. Make all changes with mutual dependencies at the same time and in the same project.
2. Release all development and Customizing tasks, ask the project manager to release the corresponding requests and the system administrator to import them into test client 300 in <QAS> (and training client 310).
3. If you need to correct your changes, do this in client 200. Then repeat step 2.

   When you copy individual change requests, you must make sure that all changes that are logically connected to each other are copied together.

Result

One-System Landscape

Once all changes have been tested successfully, you can transport them into the pre-production client PPRD (410) in <PRD>. See Pre-Production Testing [Seite 85].

Two-System Landscape

Once all changes have been tested successfully, you can transport them from <DEV> into the production system <PRD>. See Pre-Production Testing [Seite 85].

Three-System Landscape

Once all changes have been tested successfully, you can transport the requests imported into client 300 into the production system <PRD>.

System Administrator Tasks

The system administrator must regularly update the “sandbox” client SAND (210) in the development system <DEV> (<PRD> in a one-system landscape). This client is for training new project members and for trying out Customizing and development changes in a test environment.

Update the sandbox client by copying the Customizing and development client (200) to the sandbox.

It is best to perform this task weekly.

The system administrator can use the quality assurance client QTST (300) (in system <PRD> in a one-system landscape, system <DEV> in a two-system landscape, system <QAS> in a three-system landscape) to set up the training client at regular intervals. The interval depends on how much development work and training takes place in the system.

- R/3: Updating the Sandbox or Training Client [Seite 83]
- R/3: Checking Client Copy Logs [Seite 84]

Three-System Landscape

The system administrator is responsible for transporting the Customizing and development requests into the quality assurance client (300) and the training client (310) in the quality assurance system (see the phase *Pre-Production Tests* - System Administrator Tasks [Seite 95]).

R/3: Updating the Sandbox or Training Client

Procedure

1. Log on to the target client as the system administrator (210 is the sandbox client, 310 is the training client).
2. Start the client copy tool by clicking  or call Transaction SCCL.
3. Choose  next to the *Selected profile* field to display profiles for the copy.
4. In the client copy profile window, choose the profile **SAP_UCUS** for copying Customizing-date, user-master-data and authorization-profiles.
5. Enter the source client (200) as the basis for the copy into client 210 or source client (300) for the copy into 310 in both the *Source Client* (Customizing data) and *Source Client User Masters* (user accounts) fields.
6. Then start the client copy with Execute *in backgrd*.
7. Check the client copy protocol after the job has finished. Choose *Tools* → *Administration* → *Administration* → *Client Administration* → *Copy Logs* or call Transaction SCC3.

Result

If the copy was successful, the field *Status text* shows the message *Successfully completed*.

See also:

SAP Library:

- R/3: Checking Client Copy Logs [Seite 84]
- Copying Clients Within the Same System [Extern]

R/3: Checking Client Copy Logs

Use

Always check the client copy log after the client copy, whether you copied a single transport request or the whole client.

Process Flow

- Follow the procedure Displaying Copy Logs [Extern].
- If the copy was successful, the *Status* text will show the message *Successfully completed*.
- If there were any errors, then try to analyze the problem using the information in the error log and in the error messages. Clicking on a log displays the next level in the log, all the way down to the individual actions that were carried out. Repeat the client copy if necessary.
- This is not necessary in a three-system landscape, since a transport imports the requests in to the quality assurance client (300) or training client (310).

Preproduction Testing

Use

In this phase of an implementation project, the completed Customizing and development changes are imported into a special preproduction client (410), where GoingLive and system load tests are performed.

Process Flow

One-System and Two-System Landscape

In the preproduction testing phase, the application consultants and developers release all their tasks.

In a three-system landscape, this step is performed in the phase *Customizing, Development and Testing*, which means that all tasks are now released.

Project Member Tasks [Seite 87]

The project manager then releases all Customizing and development requests.

The project manager can release the request once all tasks that belong to it have been released. This exports all Customizing settings and development changes and makes sure that your Customizing and development work is consistent and up-to-date.

Empty tasks are deleted automatically when they are released.

Project Manager Tasks [Seite 92]

After a request is released and exported, all the development objects in the request are unlocked, so that work can continue. Locking objects is a function of the R/3 that which prevents simultaneous changes being made to the same Repository object by different employees on different project teams (employees who are assigned to different requests).

The system administrator imports all Customizing and development requests into the preproduction client (410) in which the integration tests were made.

Three-System Landscape

The system administrator transports all requests that were imported into the quality assurance client (300) in the quality assurance system <QAS> into the preproduction client (410) of the production system <PRD>.

General Information

The system administrator must perform the following tasks to import the requests into client 410:

- Check the export log for each Customizing and development request. The log is created if the project manager releases the request.

  If the log shows that the export was successful (return code 0 or 4), you can import the changes into the system <PRD>.

Preproduction Testing

- Import each request in <PRD>, client 410. This can be done by the *System Administration Assistant* using the TMS (Transport Management System, Transaction STMS).
- After the import, check the import log created by the transport control program. If the results are acceptable (return code 0 or 4), you can test the changes in the system <PRD>.

System Administrator Tasks [Seite 95]

After completing the imports, the project team can test the changes in <PRD>.

Project Member Tasks [Seite 104]

If the integration tests show that additional Customizing or development changes are necessary, they are performed in the Customizing and development client (200). The administrator and the project team must copy and transport the changes.

Project Member Tasks: <PRD>

At the start of the pre-production phase of a project, customizers and developers release their change tasks in the development system <DEV> (or <PRD> in a one-system landscape). In a three-system landscape, this step is performed in the phase *Customizing, Development and Testing* before individual units are tested in the quality assurance client (300) in <QAS>.

- R/3: Releasing Customizing Tasks [Seite 90]
- R/3: Releasing Development Tasks [Seite 88]

R/3: Releasing Development Tasks

Procedure

1. Choose  or enter Transaction **SE09**.
2. In the field *Request type* only choose *Transportable*.
3. In the field *Request status* only choose *Modifiable*.
4. Leave all the other fields with the default values.
5. Choose  on the R/3 standard toolbar.

   An overview is displayed of all requests that match the selection criteria.
6. Click once on  to the left of the relevant development request.
7. Click once on the relevant development task.

   If the  icon is not shown next to the development task, the development task does not contain any changes yet. There could be two reasons for this:

   - The development work was not performed correctly and was therefore not recorded by the Customizing Organizer and Workbench Organizer. In this case, repeat the development work.
   - Alternatively, an ABAP programmer was assigned to a development request, but may not have done any development work in the system. In this case the project manager must delete the development task before releasing the development request.
8. Click *Release* on the R/3 screen toolbar.

   A SAPscript screen is displayed where you can enter information describing your changes.

   You can maintain the task documentation at the same time as the developments.
9. Enter the data on this screen according to your project standards.
10. Choose  on the R/3 standard toolbar.

    The documentation of the task has been saved.
11. Choose  on the R/3 standard toolbar.

Result

The development task is now shown in blue. When this task was released, the object list it contained was copied to the object list of the higher-level development request.

Changes can no longer be entered in released tasks.

R/3: Releasing Customizing Tasks

Procedure

1. Choose  or enter Transaction **SE10**.
2. In the field *Change requests (Customizing)*, only choose *Customizing*.
3. In the field *Request status*, only choose *Modifiable*.
4. Leave all the other fields with the default values.
5. Choose  on the R/3 standard toolbar.

   An overview is displayed of all requests that match the selection criteria.
6. Click once on  to the left of the relevant customizing request.
7. Click once on the relevant customizing task.

   If the  icon is not shown next to the customizing task, the customizing task does not contain any customizing settings. There could be two reasons for this:

   - The customizing settings were not performed correctly and so the customizing settings were not recorded by the Customizing Organizer and Workbench Organizer. In this case, repeat the customizing procedure.
   - Alternatively, an application consultant was assigned to a customizing request, but may not have made any customizing settings in the system. In this case the project manager must delete the customizing task before releasing the customizing request. Empty tasks are automatically deleted when the requests are released.
8. Click *Release* on the R/3 screen toolbar.

   A SAPscript screen is displayed where you can enter information describing your customizing changes.

   You can maintain the task documentation at the same time as the customizing changes.
9. Enter the data on this screen according to your project standards.
10. Choose  on the R/3 standard toolbar.

    The documentation of the customizing task has been saved.
11. Choose  on the R/3 standard tool bar.

Result

The customizing task is now shown in blue. When this task was released, the object list it contained was copied to the object list of the higher-level customizing request.

Changes can no longer be entered in released tasks.

See also:

SAP Library:

- Releasing Change Requests [Extern]

Project Manager Tasks

The project manager must perform the following tasks in the development system <DEV> (or <PRD> in a one-system landscape):

- R/3: Releasing Customizing Tasks [Seite 90]
- R/3: Releasing Development Tasks [Seite 88]

In a three-system landscape, this step has already been performed in the phase *Customizing, Development and Testing* before the test in <QAS>.

R/3: Releasing Customizing Requests

Prerequisites

Log onto the SAP System as the project manager.

Procedure

1. Choose  or enter Transaction **SE10**.
2. In the field *Change requests (Customizing)* only choose *Customizing*.
3. In the field *Request status* only choose *Modifiable*.
4. Leave all the other fields with the default values.
5. Choose  on the R/3 standard toolbar.

   An overview is displayed of all requests that match the selection criteria.
6. Click once on the relevant development request.
7. Choose *Release* on the R/3 screen toolbar.

   The screen *Customizing request released* appears.
8. Choose *Release and Export.*

   The length of the export depends on the amount of data exported. After a period of time, the screen *Overview of all Transport Logs* appears.
9. Choose  to update the log display.
10. Choose  .

Result

The customizing request is now shown in blue and appears under the *Released* display on the screen and not the *Modifiable* display.

See also:

SAP Library:

- Releasing Change Requests [Extern]

R/3: Releasing Development Requests

Prerequisites

Log onto the SAP System as the project manager.

Procedure

1. Choose  or enter Transaction **SE09**.
2. In the field *Request type* only choose *Transportable*.
3. In the field *Request status* only choose *Modifiable*.
4. Leave all the other fields with the default values.
5. Choose  on the R/3 standard toolbar.

   An overview is displayed of all requests that match the selection criteria.
6. Click once on the relevant development request.
7. Choose *Release* on the R/3 screen toolbar.

   The length of the export depends on the amount of data exported. After a period of time, the screen *Overview of all Transport Logs* appears.
8. Choose  to update the log display.
9. Choose  .

Result

The development request is now shown in blue and appears under the *Released* display on the screen and not the *Modifiable* display.

See also:

SAP Library:

- Releasing Change Requests [Extern]

System Administrator Tasks

The system administrator must perform the following tasks during the GoingLive phase of an implementation project:

One-System Landscape

- R/3: Importing Requests into the Production System PRD [Seite 109]
- R/3: Checking Import Logs [Seite 100]
- R/3 Deleting the PPRD Client [Seite 111]

Two- and Three-System Landscape

- R/3: Checking Export Logs in DEV [Seite 96]
- R/3: Importing Requests into the Production System PRD [Seite 109]
- R/3: Checking Import Logs [Seite 100]
- R/3: Adjusting the Correction Level of Your System [Seite 102]

R/3: Checking Export Logs

Prerequisites

Log onto the SAP System as the project manager or as the system administrator.

Procedure

1. Choose  or enter Transaction **SE10**. The initial screen of the *Customizing Organizer* appears.
2. In the field *Category* choose both *Customizing* and *Workbench*.
3. In the field Request *status* only choose *Released*.
4. In the field *Date from/to*, enter a period in which the request was released.
5. Copy the default values to all the other fields.
6. Choose *Display*.

   An overview is displayed of all requests that match the selection criteria.
7. Highlight one of the customizing or development request by placing the cursor on the request.
8. In the menu, choose *Goto* → *Transport logs*.
   - Under the customizing or development request number will be an entry for the system from which the data was exported. There the name of the system is <DEV> (in a 1-system landscape: <PRD>).
   - Under the system name <DEV> (in a 1-system landscape: <PRD>) the entries for the transport steps are listed. Next to the transport step *Export* there you may see the transport step *ADO Export*. It is used if the request contains application-defined objects.

     In parenthesis at the end of each step entry will be the return code for the step.

     The return codes are:

     - **0** – The step was successful.
     - **4** – The step ended with warnings. It is most likely that the step was completed successfully, but the log should be checked for warnings, for example "*Object not found. Is also being deleted in the target system*."
     - **Greater than 4** – The step was **not** successful. The log should be checked for errors, the errors should be corrected and the customizing or development request should be re-exported.
9. Execute the step *Export* (*ADO-Export*).

   The relevant log is displayed. It contains data on a maximum of 4 log levels.
10. The log first displays log level 1. It only contains the basic information. To reach log level 4, choose *Expand* (the log is expanded by levels) or *Expand all*.

See also:

SAP Library:

- Monitoring Transports [Extern]

R/3: Importing Requests into the Production System PRD

Use

This function imports customizing and development requests into the PPRD and PROD clients of the <PRD> system.

You can choose to import individual transport requests, or all the requests in the transport directory buffer in the system <PRD>. You can also choose one specific target client.

Prerequisites

Log on to <PRD> as the system administrator in client 400 (PROD) or client 410 (PPRD).

If you are in the phase Preproduction Testing [Seite 85], **only** import requests into the preproduction client (410). If you are in the phase Post-Customizing and Development Tasks After Going Live [Seite 113] [Seite 113] and you have already deleted the preproduction client, import requests directly into the production client (400).

Development requests affect all clients. If you have a one-system landscape, all

program changes that you import in your production system are already active in

your system. The re-import is only performed to achieve a consolidated system.

Before the import ensure that all requests with cross-client changes are released. Otherwise, the changes to the cross-client data that have not been released may be lost.

Procedure

1. Choose  or enter Transaction **STMS**. The initial screen of the *Transport Management System* appears.
2. Choose *Overview* → *Imports*. The system reads the import queues.
3. In the following screen, in the column *Queue*, double-click <*PRD*>, or highlight <*PRD*>.
4. Choose *Import queue* → *Display*.
   The import queue for all clients in the production system is displayed. If you have a Ready-to-Run System, a client-specific standard transport layer Z<DEV>is already installed. This ensures that transports after the import into the preproduction client 410 are placed in the import buffer of the production client 400. See: Extended Transport Control in Ready-to-Run Systems [Seite 42].
5. Choose *Edit* → *Target client filter*. The dialog box *Filter: Target Client* appears.
6. Enter the target client.
   If you are in the phase Preproduction Testing [Seite 85], **only** import requests into the preproduction client (410). If you are in the phase Post-Customizing and Development Tasks

After Going Live and you have already deleted the preproduction client, import requests directly into the production client (400).

If transport requests are waiting in the queue, you can import them. To do this, choose *Queue* → *Start import*. To ensure the consistency of the request order, only import the entire queue and not individual requests. The dialog box *Start Import* appears.

7. Specify the target client (400 or 410). For the client to specify in the following dialog box, see the caution notice above.
8. Choose  .

   You can now specify additional import options.
9. Choose *Overwrite originals* and then choose  .
10. Confirm the prompt with *Yes*.
11. You must now log on to the system again. Log on with your user name to the target client (400 or 410).

    The message *The Import has already been started* appears that you confirm with  .
12. You can monitor the progress of the imports by choosing *Goto* → *Import monitor*. In the monitor, you may need to choose *TP status* → *Refresh* to update the display. If you see any import return codes that are greater than 0, then check the import log with Transaction **SE10**. (**See also:** R/3: Checking Import Logs [Seite 100]).
13. After all the imports are completed, choose  to close the Import Monitor and the import queue.

Result

The requests have been imported.

In a 3-system landscape the requests are imports into the Quality Assurance client (300) and the training client (310) in the Quality Assurance System <QAS> in the same procedure as described above.

R/3: Checking Import Logs

Prerequisites

One- Two- and Three-System Landscapes

You are logged on as the project manager or the system administrator in client 410 or 400 to the SAP system <PRD> and are in the Preproduction Testing [Seite 85] phase or in the GoingLive phase [Seite 107].

Three-System Landscapes Only

You are logged on as the project manager or the system administrator in client 300 tp the SAP system <QAS> and are in the Customizing, development and testing [Seite 70] phase.

Procedure

1. Choose  or enter Transaction **SE10**. The initial screen of the *Customizing Organizer* appears.
2. In the field *Requests for user*, enter the project manager's user name.
3. In the field *Change requests (Customizing)* choose both *Workbench* and *Customizing*.
4. In the field *Request status* only choose *Released.*
5. In the field *Date from/to*, enter a period in which the request was released.
6. Leave all the other fields with the default values.
7. Choose  on the application toolbar.

   An overview is displayed of all requests that match the selection criteria.
8. Click once on the relevant customizing or development request.
9. In the menu, choose *Goto* → *Transport logs*.
   - Under the customizing or development request number will be an entry for the system to which the data was imported. In this case it is <PRD>.
   - Under the <PRD> system name will be several step entries, depending on the data that was imported.
   - In parenthesis at the end of each step entry will be the return code for the step.

   The return codes are:

- **0** – The step was successful.
- **4** – The step ended with warnings. It is most likely that the step was completed successfully, but the log should be checked for warnings.
- **Greater than 4** – The step was **not** successful. The log should be checked for errors, the errors should be corrected and the customizing or development request should be re-exported.

10. Double-click each step.

    The relevant log is displayed.

    The log has four levels of detail. It is initially displayed at the summary level, which is level 1.

11. To see more detail in the log, choose  .

See also:

SAP Library:

- How a Transport Works- General Transport Description [Extern]
- Monitoring Transports [Extern]

R/3: Adjusting the Correction Level of Your System

Prerequisites

You have a 2- or 3-system landscape.

Use

The production system, quality assurance system and development system must all have the same correction level. This applies in particular to the following components:

- **Imported Support Packages**: Support Packages are correction packages in the ABAP Repository for the R/3 software that correct programming errors. Each Support Package is linked to Notes that explain the software errors and how the problems are solved. Support Packages are available for the individual SAP components.

  Only import Support Packages for components that you have installed.

- **R/3 Kernel:** This contains a collection of all executable programs ('binaries'), which are the technical basis for the SAP System along with existing operating system services and database services.
- **Database version:** By using patches for your database files, the various database manufacturers ensure that their products can run properly.

If the production system (or quality assurance system) is older than the development system, the following problems may occur:

- Errors that were fixed with patches and that do not occur anymore in the development system, occur in the production system (or quality assurance system).
- Integration tests, which tested how the individual components interact with each other, are only of limited use because the level of the programs in both systems is different.

We do not recommend importing a newer version into the production system than the one in the development system or quality assurance system, since this can also lead to problems:

- You must test newly imported patches. For example, there may be effects due to the change of Customizing settings.
- Programs you have already modified may be overwritten by any additional Support Packages you import. You cannot adjust the versions in the development system, since this system only recognizes the old program version.

Displaying the Current Correction Release

1. Log on to the development, quality assurance, (in 3-system landscapes) and production system.
2. Choose *System* → *Status*. The following data is displayed:

- SAP data: Type and number of the last Support Package that was imported.
- Database data: System and database release. Compare the SAP data and the database data of both systems.

3. Choose  . The R/3 Kernel information is displayed.
   Compare the Kernel release and patch level of both systems.

Procedure for Different Correction Releases

- If you have not imported all the patches for the development system into the production system (and quality assurance system), import them into your production system. This adjusts the correction release to the same level.
- If you have not imported all the patches for the production system (and quality assurance system) into the development system, import them into the development system. Perform all the required tests in the development system again. In this way, you ensure that the production system (and quality assurance system) functions in the form you tested.

See also:

- How to Get Service and Support [Seite 143]
- Downloading and Importing Support Packages [Seite 153]

Project Member Tasks: PRD

Project members - application consultants and ABAP developers - must perform the following tasks:

- R/3: Checking Customizing Changes [Seite 105]
- R/3: Checking Development Changes [Seite 106]

R/3: Checking Customizing Changes

To test the <PRD> system, the application consultant must execute the following steps:

Procedure

1. Log on to client 410 in the <PRD> system.
2. Ensure that all customizing settings from the development system <DEV> (in a 1-system landscape: <PRD>) were transported correctly into client 410 of the production system <PRD>.
3. Check that the <PRD> system has the new functions.

R/3: Checking Development Changes

Procedure

To test the PRD system, the ABAP programmer must execute the following steps:

1. Log on to client 410 in the <PRD> system.
2. Ensure that the development work has been transported correctly from the <DEV> system (in a 1-system landscape: <PRD>) back into system <PRD>.
3. Check that the <PRD> system has the required functions.

Going Live with PRD

Use

This phase marks the completion of an R/3 implementation project.

Prerequisites

The customizing and development changes have been completed and tested. Now they can be transported into the production client (400) in the PRD system.

With their transport into client 400, the changes are “live” – or active – in your production SAP R/3 System.

Process

In this phase, the system administrator must perform the following tasks:

- **Setting the customizing development changes to active in the production system <PRD>**.

  To do this, the system administrator imports all change requests that were imported into the preproduction test client (410) into the production client in <PRD>. Client 400 is the client where all the users of your company log on and in which they work with SAP System.

- **Deleting the preproduction client 410 in <PRD>**.

This may be necessary if storage space is needed for the production client 400 and your company’s data.

SAP recommends waiting 4-6 weeks before deleting client 410. If there are any late changes to the system, the preproduction client remains available for testing changes to your production system. The changes do not need to be directly imported into the production client.

SAP also recommends first exporting the client to a file and to back the client up on a separate tape or on another backup media. If there ever any questions about the original setup of the system, you can reload the client and find the information needed.

See also:

System Administrator Tasks: PRD [Seite 108]

System Administrator Tasks: PRD

The system administrator must perform the following tasks during the GoingLive phase of an implementation project:

One-, Two- and Three-System Landscape

- R/3: Importing Requests into the Production System PRD [Seite 109]
- R/3: Checking Import Logs [Seite 100]
- R/3: Deleting the PPRD Client [Seite 111]

R/3: Importing Requests into the Production System PRD

Use

This function imports customizing and development requests into the PPRD and PROD clients of the <PRD> system.

You can choose to import individual transport requests, or all the requests in the transport directory buffer in the system <PRD>. You can also choose one specific target client.

Prerequisites

Log on to <PRD> as the system administrator in client 400 (PROD) or client 410 (PPRD).

If you are in the phase Preproduction Testing [Seite 85], **only** import requests into the preproduction client (410). If you are in the phase Post-Customizing and Development Tasks After Going Live [Seite 113] [Seite 113] and you have already deleted the preproduction client, import requests directly into the production client (400).

Development requests affect all clients. If you have a one-system landscape, all

program changes that you import in your production system are already active in

your system. The re-import is only performed to achieve a consolidated system.

Before the import ensure that all requests with cross-client changes are released. Otherwise, the changes to the cross-client data that have not been released may be lost.

Procedure

14. Choose  or enter Transaction **STMS**. The initial screen of the *Transport Management System* appears.
15. Choose *Overview* → *Imports*. The system reads the import queues.
16. In the following screen, in the column *Queue*, double-click <*PRD*>, or highlight <*PRD*>.
17. Choose *Import queue* → *Display*.
    The import queue for all clients in the production system is displayed. If you have a Ready-to-Run System, a client-specific standard transport layer Z<DEV>is already installed. This ensures that transports after the import into the preproduction client 410 are placed in the import buffer of the production client 400. See: Extended Transport Control in Ready-to-Run Systems [Seite 42].
18. Choose *Edit* → *Target client filter*. The dialog box *Filter: Target Client* appears.
19. Enter the target client.
    If you are in the phase Preproduction Testing [Seite 85], **only** import requests into the preproduction client (410). If you are in the phase Post-Customizing and Development Tasks

R/3: Importing Requests into the Production System PRD

After Going Live and you have already deleted the preproduction client, import requests directly into the production client (400).

If transport requests are waiting in the queue, you can import them. To do this, choose *Queue* → *Start import*. To ensure the consistency of the request order, only import the entire queue and not individual requests. The dialog box *Start Import* appears.

20. Specify the target client (400 or 410). For the client to specify in the following dialog box, see the caution notice above.
21. Choose  .

    You can now specify additional import options.
22. Choose *Overwrite originals* and then choose  .
23. Confirm the prompt with *Yes*.
24. You must now log on to the system again. Log on with your user name to the target client (400 or 410).

    The message *The Import has already been started* appears that you confirm with  .
25. You can monitor the progress of the imports by choosing *Goto* → *Import monitor*. In the monitor, you may need to choose *TP status* → *Refresh* to update the display. If you see any import return codes that are greater than 0, then check the import log with Transaction **SE10**. (**See also:** R/3: Checking Import Logs [Seite 100]).
26. After all the imports are completed, choose  to close the Import Monitor and the import queue.

Result

The requests have been imported.

In a 3-system landscape the requests are imports into the Quality Assurance client (300) and the training client (310) in the Quality Assurance System <QAS> in the same procedure as described above.

R/3: Deleting the PPRD Client

Prerequisites

Once you have finished all customizing and development work and have gone live, you can delete the preproduction client (410) in your <PRD> system.

Delete the preproduction client (410) only if:

- All customizing and development projects have been completed; and if
- You have allowed production use of the changes to be incorporated – a minimum of 4 to 6 weeks after you go live

  This delay in deleting the client lets you use the standard procedure for making changes if any late change requirements arise during production use.

  If the preproduction test client occupies too much storage space in the database, you can delete it immediately before setting up the production client.

You can delete client 410 before importing data into client 400 if you need the storage space that client 410 occupies in the database.

Procedure

1. Log on as user ADMINBC to client 410 in system PRD.
2. Enter Transaction **SCC5**.
3. On the *SCC5* screen, mark the *Delete entry from T000* checkbox.
4. Choose *Background* on the toolbar.
5. In the following display, click *Schedule job* and then confirm this selection in the following dialog box.
6. In the following scheduling dialog box, enter a start time and start date for the background job that deletes the client, or choose *Immediate start*.

   Optionally, use the *Check* button to make sure that the job definition is correct.
7. Choose *Save*.
8. In the following dialog box, specify where to print the client-deletion report.
9. Choose *ENTER*. The background job has been submitted to the system and is started according to your start specifications.

To monitor the progress of the client deletion, enter Transaction **SCC3**.

Deleting a client may take from several minutes to several hours depending on the amount of data in the client and the performance of your system.

Additional Steps in a One- or Two-System Landscape

In a one- or two-system landscape, modify the transport route after deleting the preproduction client (410), since client 410 is set as the target client for your transport requests and you cannot use it anymore.

Procedure

1. Enter Transaction **STMS**.
2. Choose *Overview* → *Transport routes*.
3. Choose *Configuration* → *Display* ↔ *Change*.
4. Choose *Edit* → *Transport route* → *Delete*, and then *Edit* → *Transport route* → *Create*.
5. Choose the *Extended transport control* icon
6. Under *Consolidation* enter the current <*SID*>as the integration system, and enter <*ZDEV*>as the transport layer and <*SID*>*.400* as the consolidation target.
7. Save your settings.
8. Choose *Configuration* → *Distribute*.
9. Choose *Utilities* → *Configuration* → *Activate locally*.

Result

Client (400) is now target client for the transport requests.

Post-Customizing and Development Tasks After Going Live

Use

After you have activated your customizing and development changes in your production R/3 client (<PRD> client 400), you enter the post-customizing phase of running your system.

In addition to any R/3 upgrades or Support Packages that you install, you may occasionally need to add a new Customizing or development change to your production client.

The procedure for making such late changes is almost the same as it was for your initial customizing and development project. The only difference is that you need to import late changes directly into the R/3 production client (<PRD> client 400) directly, once you have deleted the preproduction client.

Process

- The system administrator and the change project manager set up the change project.

  See Requirements for Customizing and Development [Seite 47]

- Customizers and/or developers make any additional changes to your system in client 200 of the development system DEV. If you have a 1-system landscape, the changes are made in the PRD system.

  See: R/3: Performing Customizing Activities [Seite 75] and R/3: Performing Development Activities [Seite 74]

  If you have a 1-system landscape, note that development and cross-client changes directly affect the production client (400).

- Customizers and/or developers in a 1- or 2-system landscape copy their changes to the quality-assurance (300) and training (310) clients in the development system. In a 3-system landscape, the changes are released and are transported by the system administrator into clients 300 or 310 in the quality assurance system. The system administrator periodically refreshes the “sandbox” client and the training client (210 and 310).

  See: R/3: Copying and Testing Customizing and Development Changes [Seite 76] and R/3: Refreshing the Sandbox or Training Client [Seite 83]

- After testing the changes, Customizers and developers release their Customizing and development tasks.

  See: R/3: Releasing Customizing Tasks [Seite 90] and R/3: Releasing Development Tasks [Seite 88]

- The change project manager releases the customizing and development requests, and exports them only in a 1- or 2-system landscape. In a 3-system landscape, the changes are already transported before the transport into the quality assurance system.

  See: Project Manager Tasks: PRD [Seite 57]

Post-Customizing and Development Tasks After Going Live

- The system administrator imports the customizing and development requests into the production system <PRD>.

  If the preproduction test client (410) is still available, then the system administrator imports the changes into this client. After testing, the changes can then be copied into the production client (400).

  When copying a late change into the production client (400), the administrator must be sure to use the import function *Single request*.

  If the preproduction client has already been deleted, the system administrator imports the late change requests directly into the production client (400) in <PRD> (See: Importing Requests into the Production System PRD [Seite 109]). Instead of importing into client 410, however, the system administrator specifies client 400, the production client, as the import destination.

  Only import these changes when no production work is being done in <PRD> (no

  interactive users are logged on, no background jobs are running).
  The changes become effective immediately when they are imported into the production client.

Running Your System

This section describes the tasks of a system administrator. Checklists are used to describe all the daily, weekly, monthly and less frequent tasks that the administrator needs to perform while operating the system productively.

The administration tasks for an R/3 System depend on the underlying operating system, the database platform used and the R/3 system landscape. From the following, choose the checklist that suits your system configuration:

One-System Landscape

Your system landscape consists of a single production system <PRD>.

PRD: Checklist for Operating the Production System [Seite 124]

Additional Administration Tasks [Seite 135]

Two-System Landscape

Your system landscape consists of a development system <DEV> and a production system <PRD>.

DEV: Checklist for the Customizing and Development System [Seite 116]

PRD: Checklist for Operating the Production System [Seite 124]

Additional Administration Tasks [Seite 135]

DEV: Checklist for the Customizing and Development System

This section contains all tasks that you need to perform at regular intervals. Stick to the checklist to optimize the way in which your Customizing and development system <DEV> operates.

The tasks are ordered according to how frequently they need to be performed (daily, weekly, monthly, and so on). You can also call the corresponding R/3 transaction from the *System Administration Assistant*.

DEV: Daily Tasks [Seite 117]

DEV: Weekly Tasks [Seite 119]

DEV: Monthly Tasks [Seite 120]

DEV: Unscheduled and Occasional Tasks [Seite 121]

DEV: Daily Tasks

AS/400 Server

Performing a Daily Backup on AS/400 [Extern]

Checking the System Operator Message Queue [Extern]

Monitoring Disk Usage [Extern]

Loading and Removing Backup Tapes [Extern]

Checking the Backup Log Files [Extern]

DB2 Universal Database

Backing Up Archived Logs [Extern]

Checking the Most Recent Log File Backup [Extern]

Checking the Database Log [Extern]

Checking Admin Database Replication [Extern]

Monitoring Log File Growth [Extern]

HP-UX

Checking the File System Backup [Extern]

Checking File System Freespace [Extern]

OS Log Check [Extern]

Swap Check [Extern]

Informix

Monitoring Logical-Log Fill Level [Extern]

Backing Up Logical-Log Files [Extern]

Checking the Database Message Log [Extern]

MS SQL Server

Performing a Complete Online Backup [Extern]

Backing Up Transaction Logs [Extern]

Checking the Most Recent Database Backup [Extern]

Checking the Most Recent Transaction Log Backup [Extern]

DEV: Daily Tasks

Checking the Database Error Log [Extern]

MS Windows NT

Monitoring Disk Usage [Extern]

Checking the Windows NT Event Log [Extern]

ORACLE Server Manager

Backing Up the Offline Redo Log Files [Extern]

Checking the Database Backup [Extern]

Checking the Alert File [Extern]

Searching for Error Messages in the Alert File [Extern]

Monitoring the Archivelog Directory [Extern]

Analyzing the Results of the DB System Check [Extern]

Checking the Status of the Table Statistics [Extern]

Updating the Database Statistics [Extern]

SAP System

Checking the System Logs [Extern]

SunOS

Operating System Monitor [Extern]

Checking the System Log File [Extern]

DEV: Weekly Tasks

AS/400 Server

Performing a Full System Backup on AS/400 [Extern]

Checking the Backup Log Files [Extern]

DB2 Universal Database

Performing a Complete Offline Backup [Extern]

Checking the Most Recent Database Backup [Extern]

Updating Statistics and Scheduling a Reorganization for All Tables [Extern]

Monitoring Database Growth [Extern]

HP-UX

Checking the File System Backup [Extern]

Informix

Performing a Complete Database Archive [Extern]

Checking the DB System [Extern]

MS SQL Server

Performing a Complete Online Backup [Extern]

Checking the Most Recent Database Backup [Extern]

ORACLE

Making a Full Backup of the Database [Extern]

Checking the Database Backup [Extern]

Database Verification - Checking the Physical Structure [Extern]

DEV: Monthly Tasks

AS/400 Server

Performing a Full System Backup on AS/400 [Extern]

Checking the Backup Log Files [Extern]

ORACLE

Analyzing the Whole Database [Extern]

Renaming the Alert File [Extern]

MS SQL Server

Checking Database Consistency [Extern]

MS Windows NT

Making a Complete System Backup [Extern]

SunOS

Backing Up the System Completely [Extern]

DEV: Unscheduled and Occasional Tasks

AS/400 Server

Checking the Backup Log Files [Extern]

Checking Hardware Error Logs [Extern]

Changing Passwords for OS/400 Users [Extern]

Reorganizing Physical File Members [Extern]

Reclaiming Storage [Extern]

Testing the Restore Process [Extern]

DB2 Universal Database

Checking the Readability of Backup Tapes [Extern]

Testing the Restore Process [Extern]

Checking for Missing Indexes [Extern]

Reorganizing Tables [Extern]

Changing Ready-to-Run User Passwords [Extern]

Performing a Complete Offline Backup [Extern]

Informix

Checking for Missing Indexes [Extern]

Monitoring Database Growth [Extern]

Monitoring Logical-Log Fill Level [Extern]

Checking a Single Table for Data Consistency [Extern]

Checking All Tables of a Dbspace for Data Consistency [Extern]

Checking All Tables with Blob Fields for Data Consistency [Extern]

Checking All R/3 Tables for Data Consistency [Extern]

Updating Statistics for a Single Table [Extern]

Updating Statistics for All Tables [Extern]

MS Windows NT

Creating a Repair Disk [Extern]

Checking the Windows NT Event Log [Extern]

Changing Windows NT Administrator Passwords [Extern]

MS SQL Server

Checking the Readability of Backup Tapes [Extern]

Testing the Restore Process [Extern]

Checking for Missing Indexes [Extern]

Monitoring Database Growth [Extern]

Monitoring Transaction Log Growth [Extern]

Checking Database Consistency [Extern]

Changing the Password of the Database Administrator [Extern]

ORACLE Server Manager

Checking the Readability of Backup Tapes [Extern]

Finding Missing Indexes [Extern]

Monitoring Database Growth [Extern]

Expanding the Database (Adding Data Files) [Extern]

SAP System

Changing Administrator Passwords [Extern]

Starting the Alert Browser and Displaying Alerts [Extern]

Checking the System Logs [Extern]

Checking the Spool System [Extern]

Checking the Work Process Status - Overview of SAP Application Servers [Extern]

Checking ABAP Dumps [Extern]

Checking Update Errors [Extern]

Checking Log Entries - The SAP Lock Concept [Extern]

Managing Batch Input Sessions [Extern]

Managing Jobs from the Job Overview [Extern]

Checking the Transport Management System [Extern]

Deleting Old User Accounts [Extern]

Administrating the TemSe Database [Extern]

SunOS

Checking the System Log File [Extern]

PRD: Checklist for the Production System

This section contains all tasks that you need to perform at regular intervals. Stick to the checklist to optimize the way in which your Customizing and development system <DEV> operates.

The tasks are ordered according to how frequently they need to be performed (daily, weekly, monthly, and so on). You can also call the corresponding R/3 transaction from the *System Administration Assistant*.

PRD: Daily Tasks [Seite 125]

PRD: Weekly Tasks [Seite 128]

PRD: Monthly Tasks [Seite 130]

PRD: Yearly Tasks [Seite 132]

PRD: Unplanned and Occasional Tasks [Seite 133]

PRD: Daily Tasks

AS/400 Server

Checking the System Operator Message Queue [Extern]

Monitoring Disk Usage [Extern]

Loading and Removing Backup Tapes [Extern]

Checking the Backup Log Files [Extern]

DB2 Universal Database

Performing a Complete Online Backup [Extern]

Backing Up Archived Logs [Extern]

Checking the Readability of Backup Tapes [Extern]

Monitoring Database Growth [Extern]

Monitoring Log File Growth [Extern]

Checking the Most Recent Database Backup [Extern]

Checking the Most Recent Log File Backup [Extern]

Updating Statistics and Checking Tables for Reorganization [Extern]

Checking the Database Log [Extern]

Checking Admin Database Replication [Extern]

HP-UX

Checking the File System Backup [Extern]

Checking File System Freespace [Extern]

OS Log Check [Extern]

Swap Check [Extern]

Informix

Performing a Complete Database Archive [Extern]

Backing Up Logical-Log Files [Extern]

Checking the DB System [Extern]

Monitoring Database Growth [Extern]

Monitoring Logical-Log Fill Level [Extern]

Checking the Database Message Log [Extern]

MS Windows NT

Checking the Windows NT Event Log [Extern]

Monitoring Disk Usage [Extern]

MS SQL Server

Performing a Complete Online Backup [Extern]

Backing Up Transaction Logs [Extern]

Checking the Readability of Backup Tapes [Extern]

Monitoring Database Growth [Extern]

Monitoring Transaction Log Growth [Extern]

Checking the Most Recent Database Backup [Extern]

Checking the Most Recent Transaction Log Backup [Extern]

Checking the Database Error Log [Extern]

ORACLE Server Manager

Making a Full Backup of the Database [Extern]

Checking the Database Backup [Extern]

Backing Up the Offline Redo Log Files [Extern]

Monitoring Database Growth [Extern]

Checking the Alert File [Extern]

Searching for Error Messages in the Alert File [Extern]

Monitoring the Archivelog Directory [Extern]

SAP System

CCMS System Monitoring- Tutorial [Extern]

Starting the Alert Browser and Displaying Alerts [Extern]

Checking the System Logs [Extern]

Checking the Spool System [Extern]

Checking the Work Process Status - Overview of Application Servers [Extern]

Checking ABAP Dumps [Extern]

Checking Update Errors [Extern]

Checking Log Entries - The SAP Lock Concept [Extern]

Managing Batch Input Sessions [Extern]

Managing Jobs from the Job Overview [Extern]

SAP DB

Checking Database Free Space [Extern]

Checking Free Log Space [Extern]

DBA Planning Calendar [Extern]

Automatic Log Backup [Extern]

Planning Concept [Extern]

SunOS

Checking the System Log File [Extern]

PRD: Weekly Tasks

AS/400 Server

Performing a Full System Backup on AS/400 [Extern]

Checking the Backup Log Files [Extern]

DB2 Universal Database

Checking for Missing Indexes [Extern]

Performing a Complete Offline Backup [Extern]

Updating Statistics and Checking Tables for Reorganization [Extern]

HP-UX

Checking the File System Backup [Extern]

Informix

Checking for Missing Indexes [Extern]

Checking All R/3 Tables for Data Consistency [Extern]

MS SQL Server

Checking for Missing Indexes [Extern]

ORACLE Server Manager

Finding Missing Indexes [Extern]

Database Verification - Checking the Physical Structure [Extern]

SAP System

Administrating the TemSe Database [Extern]

SAP DB

Planning Concept [Extern]

DBA Planning Calendar [Extern]

DBA Action Logs [Extern]

SunOS

Backing Up the System Completely [Extern]

PRD: Monthly Tasks

AS/400-Server

R/3 and AS/400: Changing Administrator Passwords [Extern]

Changing Passwords for OS/400 Users [Extern]

Performing a Full System Backup on AS/400 [Extern]

Checking the Backup Log Files [Extern]

Testing the Restore Process [Extern]

Checking Hardware Error Logs [Extern]

DB2 Universal Database

Testing the Restore Process [Extern]

Changing Ready-to-Run User Passwords [Extern]

Informix

Checking for Missing Indexes [Extern]

Checking All R/3 Tables for Data Consistency [Extern]

ORACLE Server Manager

Analyzing the Whole Database [Extern]

Renaming the Alert File [Extern]

Changing User Passwords [Extern]

MS SQL Server

Testing the Restore Process [Extern]

Checking Database Consistency [Extern]

Changing the Password of the Database Administrator [Extern]

MS Windows NT

Making a Complete System Backup [Extern]

Changing Windows NT Administrator Passwords [Extern]

SAP System

Changing the Administrator Password [Extern]

SunOS

Backing Up the System Completely [Extern]

Using Special System Tools [Extern]

PRD: Yearly Tasks

AS/400 Server

Performing a Full System Backup on AS/400 [Extern]

Checking the Backup Log Files [Extern]

Testing the Restore Process [Extern]

MS Windows NT

Making a Complete System Backup [Extern]

SunOS

Backing Up the System Completely [Extern]

PRD: Unscheduled and Occasional Tasks

AS/400 Server

Performing a Full System Backup on AS/400 [Extern]

R/3 and AS/400: Changing Administrator Passwords [Extern]

Reorganizing Physical File Members [Extern]

Reclaiming Storage [Extern]

DB2 Universal Database

Performing a Complete Offline Backup [Extern]

Updating Statistics and Scheduling a Reorgcheck for all Tables [Extern]

Informix

Checking a Single Table for Data Consistency [Extern]

Checking All Tables of a Dbspace for Data Consistency [Extern]

Checking All Tables with Blob Fields for Data Consistency [Extern]

Updating Statistics for a Single Table [Extern]

Updating Statistics for All Tables [Extern]

MS SQL Server

Checking Database Consistency [Extern]

MS Windows NT

Creating a Repair Disk [Extern]

Checking the Windows NT Event Log [Extern]

ORACLE Server Manager

Expanding the Database (Adding Data Files) [Extern]

SAP System

Checking the Transport Management System [Extern]

Deleting Old User Accounts [Extern]

Checking Active Users [Extern]

PRD: Unscheduled and Occasional Tasks

Scheduling Background Jobs [Extern]

SAP DB

Adding Data Devspaces [Extern]

Adding Log Devspaces [Extern]

Additional Administrative Tasks

In this section, we review administrative tasks that are common to both the development system <DEV> and the production system<PRD>.

The general administration tasks do not fit in any checklist. They are optional or as needed.

See also:

R/3: Additional Tasks [Seite 136]

Database Administration: Additional Tasks [Seite 139]

Microsoft Windows NT: Additional Tasks [Extern]

Performance Monitoring [Seite 137]

R/3 System: Additional Administration Tasks

General

Starting the SAP System: Windows NT [Extern]

Processing System Messages [Extern]

Monitoring Disk Usage [Extern]

Users

Copying Roles and Standard Users [Extern]

Locking or Unlocking a User [Extern]

Changing a Password [Extern]

Finding a Missing Authorization [Extern]

Displaying and Managing User Sessions [Extern]

Operating Modes and Instances

Operation Modes [Extern]

Defining Normal Operation [Extern]

Operation Mode Switches [Extern]

Defining Exception Operation [Extern]

Background Processing

Scheduling Background Jobs [Extern]

Managing Jobs from the Job Overview [Extern]

Transport Management System

Transport Management System [Extern]

Performance Monitoring

Performance Monitoring [Seite 137]

Performance Monitoring

Perform the following tasks at regular intervals. If you experience problems with the response times of your system, perform the checks immediately to find out the source of the problem.

Checking R/3 System Performance

SAP Buffers [Extern]

Workload Monitor - Overview [Extern]

Operating System - Overview [Extern]

Checking Database Performance

Checking Performance - Database [Extern]

AS/400: Additional Tasks

Starting Your R/3 System on AS/400 [Extern]

Printing: Installing New Printers [Extern]

Checking the R3RMTDB Job [Extern]

Database Administration: Additional Tasks

MS SQL Server

Tape Naming Conventions [Extern]

Restoring a Windows NT Server [Extern]

Restoring the Database [Extern]

Restoring the SQL Server Database [Extern]

ORACLE

Tape Naming Conventions [Extern]

Recovering the Database [Extern]

Expanding the Database (Adding Data Files) [Extern]

Finding Missing Indexes [Extern]

Searching for Error Messages in the Alert File [Extern]

DB2 Universal Database

Tape Naming Conventions [Extern]

Restoring the Database [Extern]

Checking for Missing Indexes [Extern]

Increasing Database Storage Capacity [Extern]

Informix

Tape Naming Conventions [Extern]

Restoring the Database [Extern]

Creating a New Dbspace [Extern]

Extending a Dbspace [Extern]

MS Windows NT: Additional Tasks

AS/400 System Administration

Troubleshooting, Service and Support

If you experience problems while working with the R/3 System, look for help in the following:

- The Troubleshooting Roadmap [Seite 183] is an R/3 tool that helps you to identify and solve many types of problems (R/3 System, network, database). It gives you tips on the possible causes of the problem and ways in which you can solve it.
- The Service and Support [Seite 143] section provides information on the Service and Support offered by SAP. Make use of this if you cannot solve problems on your own.

How to Get SAP Service and Support

If you have problems operating your SAP System, you can use the *SAPNet - R/3 Frontend* for help. In the section *System News* you find extensive and up-to-date information on the SAP System, Support Packages, HotNews, Tips and Tricks and much more. SAP Support employees can log on to your system using a remote connection to analyze and correct problems.

The SAPNet - R/3 Frontend can help you at any time should you have problems with or need additional information on operating your Ready-to-Run system.

The new term ***SAPNet - R/3 Frontend*** clarifies the integration of all service functions in the *SAPNet - Web Frontend*, the actual "SAPNet".

You can find up-to-date information on the SAPNet - R/3 Frontend as a customer or partner of SAP under the following address: `http://sapnet.sap.com/oss-guide`

Logging On to the SAPNet - R/3 Frontend

Prerequisites

You must meet the following requirements before you can use the SAPNet - R/3 Frontend:

- At least SAPgui Version 4.0B is installed on your frontend PC. SAP recommends that you install and use the latest SAPgui version.
- You have a remote connection set up to SAP. If you have a Ready-to-Run R/3 System, this connection is already configured and ready to use. If you do not have a Ready-to-Run R/3 System you must set up the connection yourself and register it at SAP.
- You have a valid SAPNet User ID.

Procedure

1. Log on to the R/3 System.
2. Choose *Systems* → *Services* → *SAP Service* or call Transaction OSS1.
3. Click *Log on to the SAPNet - R/3 Frontend*. The SAP R/3 screen appears.
4. Keep the default client (001).
5. Enter your SAPNet user ID in the field *User ID*.
6. Choose a logon language and confirm with ENTER. You are now logged on to the system. If you log on in English or German, the screen *System News* appears. If you log on in Japanese, the *Inbox* appears.

   The *System News* menu contains current information about SAP. Double-click a title to display the text.

Searching for Notes

Use

Each time it discovers and solves a problem, SAP creates a Note in the *SAPNet - R/3 Frontend* Note Database that describes the problem and its solution. If you think there is a problem in your SAP System, first search for a solution in this database.

Procedure

1. Log on to SAPNet - R/3 Frontend. The menu *System News* appears.
2. Choose *Continue*. Your Inbox appears.
3. Choose *Gen. functions*. A window appears that contains the group *Notes*.
4. In this group, choose the option *Find.*
5. Enter search criteria. You can use wildcards (*). For example, if you enter 'remote', all Notes appear that contain the term 'remote' (such as remote access, remote services, and so on).

Result

A list of Notes appears that correspond your search criteria. If you cannot find a relevant Note, create a customer message [Seite 146].

You can also use a Web browser to search for Notes in SAPNet. Enter the following URL: `http://sapnet.sap.com/notes`.

Entering a Customer Message

Use

If there are Notes to help you correct a problem with your SAP System, and you cannot find a solution to your problem, (see Searching for Notes [Seite 145]), you need to create a customer message in the SAPNet - R/3 Frontend. The well-staffed, global SAP hotline will respond to your problem as quickly as possible.

Provide the following information when you register a problem:

- Customer number
- Installation number of the SAP System
- R/3 Release version
- Database type and release
- Exact error message or termination message
- Excerpt of the system log (see R/3: Checking the System Log [Extern])
  - If relevant, excerpts from the database log and/or operating system log, for example Windows NT event log (see NT: Checking the Windows NT Event Log [Extern])

Procedure

1. Call the *Inbox* of the *SAPNet - R/3 Frontend*.
2. In the first row of options choose *SAPNet*.
3. Choose *Messages* → *Create*. The dialog box *Select Customer System/Platform* appears. The system displays installations for which you can create customer messages.
4. Double-click the installation number for the relevant installation. (You can find out the installation number of an SAP Systems by choosing *System* → *Status*.)
5. Enter all the necessary information.
6. Save your entries.

For more information on creating customer messages, refer to the document *The SAPNet -R/3 Frontend User Guide* which you can download as a PDF file from the following address: `http://sapnet.sap.com/oss-guide`.

Tracking Message Status

Use

You can check the progress of any customer message you have created by viewing the action log.

Prerequisites

You are in the SAPNet - R/3 Frontend Inbox.

Procedure

1. Choose *SAPNet* → *Messages* → *Sent to SAP.*
2. Double-click the short text of the message you are interested in.
3. Choose *Action Log*. The information about the message appears.
4. Read about how the message is being processed.
5. Choose *Close* to go back to the original screen.

Receiving and Responding to Responses from SAP

Use

In certain cases, SAP require additional information to process your messages in the *SAPNet - R/3 Frontend*. If you receive this type of response, you can answer it using the following procedure.

Prerequisites

You are in the *Inbox* of the SAPNet - R/3 Frontend.

Procedure

1. Choose *SAPNet.*
2. Choose *Messages* (in the group *SAPNet)*.
3. Choose *Inquiry from SAP*. The screen *Inquiry from SAP*: *Original messages* appears.
4. Double-click the short text message that you want to answer or add to.
5. Choose *Long text* to display the answer from SAP. You can read it or print it out.
6. Return to the previous screen.
7. Choose *Display* ↔ *change*.
8. Choose *Supplementary info*.
9. Enter the information that will help SAP process your message.
10. Return to the previous screen.
11. Choose *Send to SA*P.

Confirming and Closing Messages

Use

If you confirm a return message from SAP as described here you close the message permanently. The problem is then considered closed and is no longer investigated.

Prerequisites

You are satisfied with the response from SAP and you problem is solved.

Procedure

1. Go to the SAPNet - R/3 Frontend *Inbox* .
2. Choose *SAPNet.*
3. Choose *Message*s in the group *SAPNet*.
4. Choose *Solution provide*d. The screen *Solution provided: Original messages* appears.
5. Choose *Long text,* to display any additional information provided by SAP.
6. Check if a Note is attached.
7. Choose *Confirm,* to close the problem message permanently.

Support Packages

Use

A Support Package is a bundling of corrections that only fixes errors in the ABAP Repository. They are available for download through the *SAPNet – R/3 Frontend*.

You must follow a specific order when using Support Packages.

We strongly recommend importing Support Packages first into a development system. Only use Support Packages in a production system if you are sure that no problems occurred in the development system.

Support Packages are integrated into subsequent releases so that installing a Support Package in your SAP System does not deviate from the standard system.

Support Packages correct only problems within the SAP System.

Prerequisites

You need to apply a Support Package if an SAP Note requests that you apply one or if SAP advises you to do so.

Process

There are three steps to importing Support Packages:

1. Finding Support Packages [Seite 151]
2. Requesting Support Packages [Seite 152]
3. Downloading and Importing Support Packages [Seite 153]

For more information on importing patches, refer to the SAP Library under Importing Support Packages using SPAM [Extern].

Finding Support Packages

Prerequisites

You have the SAPNet - R/3 Frontend *Inbox* open.

Procedure

1. Choose *SAPNet.*
2. Choose *Service* (in the group *SAPNet).*
3. Choose *Service* (in the group *Service).*
4. Choose *SAP Support Package*s (in the group *SAP Patch Service).* A list of available R/3 Releases appears.
5. Double-click the icon "**+**" in front of the R/3 Release that corresponds to your installation. A list of available Support Packages appears. If you have an add-on release, choose *Add-on view* to display the Support Packages developed especially for add-on releases.
6. Search the list for the Support Package that you need.

Requesting Support Packages

Prerequisites

You have found a specific Support Package (see: Finding Support Packages [Seite 151]).

Procedure

7. Log on to the SAPNet - R/3 Frontend and choose *Inbox*.
8. Choose *SAPNet*.
9. Choose *Service* (in the group *SAPNet).*
10. Choose *Service* (in the group *Service).*
11. Choose *SAP Support Packages* (in the group *SAP Patch Service)*. A list of available SAP Releases appears.
12. Double-click the "**+**" in front of the SAP Release that corresponds to your installation. You now see a list of available Support Packages.
13. Check the Support Package you want and choose *Request patch*. A new screen appears that lists all installations for which you are responsible.
14. Select the installation you want.
15. In the column *SID* (System ID) enter the system name (for example, C11) where you want to use a specific Support Package.
16. Choose *Continue* to request the Support Package. The list of available Support Packages appears again and you receive a confirmation that the Support Package was requested.

SAP stores information on which Support Packages you have already requested. This is used to optimize for you. For this reason, only request Support Packages when you really need them.

See also:

Downloading and Importing Support Packages [Seite 153]

Downloading and Importing a Support Package

Prerequisites

You have already requested the Support Package.

Procedure

1. Enter Transaction **SPAM** or choose *Tools* → *ABAP Workbench* → *Utilities* → *Maintenance* → *Patches*.
2. Choose *Patch* → *Download*. The dialog box *Electronic Parcel Service*: *Confirm Transmission* appears with a list of Support Packages you have requested.
3. Choose one or several Support Packages.
4. Choose *Continue*. As soon as the Support Package has been downloaded, the *SAP Patch Manager (SPAM)* screen appears.
5. If you want to use the Support Package immediately, choose *Yes*.

We strongly recommend first always importing Support Packages first into a development system. Only use Support Packages in a production system if you are sure that no problems occurred in the development system.

For more information on importing patches, refer to the SAP Library under Importing Support Packages using SPAM [Extern].

Downloading Files from SAP Servers

Use

SAP offers a worldwide network of FTP servers from which you can download files. These servers provide:

- Corrections based on Notes (SAPNet - R/3 Frontend)
- Operating system, database and SAP patches
- The latest SAP program files
- Utilities used with R/3 implementation projects
- Other files in the SAP environment

Locations of the SAP Servers

- SAPSERV3- **`147.204.2.5`** - Germany
- SAPSERV4- **`204.79.199.2`** - USA
- SAPSERV5- **`194.39.138.2`** - Japan
- SAPSERV6- **`194.39.139.16`** - Australia
- SAPSERV7- **`194.39.134.35`** - Singapore

Sometimes you can find subdirectories or files on SAPSERV3 (Walldorf, Germany) that do not exist on SAPSERV4.

Since the FTP servers are based on UNIX, be sure to use the correct case when you enter commands (UNIX is case-sensitive).

Procedure

1. Open an MS-DOS command prompt on your SAP Server or LAN Server.
2. Depending on your location, enter one of the following commands:
   - SAPSERV3 (Europe): **`ftp 147.204.2.5`**
   - SAPSERV4 (North America): **`ftp 204.79.199.2`**.
3. Enter **`ftp`** at the *User:* prompt.
4. Enter **`ftp`** at the *Password:* prompt.
5. Enter **`cd dist/permanent/`**.
6. Find the subdirectory or subdirectories you want. `dist/permanent` contains all the Notes and patches used to solve all SAP, operating system, or database-related problems. (Enter **`help`** to display all commands that you can use with FTP.)

   Enter **`ls -al`** to list the contents of the `dist/permanent` directory.

```
ftp> cd /dist/permanent
250 CWD command successful.
ftp> ls -al_
```

A list similar to the following appears:

```
drwxr-xr-x   2 sapftp   sap          1024 Jan 23 08:27 Note0025182
drwxr-xr-x   4 sapftp   sap          1024 Dec  5 06:53 ORACLE
drwxrwxr-x   2 sapftp   sap          1024 Dec 18 11:01 OSRAM
drwxr-xr-x   2 sapftp   sap            24 Oct 24  1995 OSS
drwxrwxr-x   5 sapftp   sap          1024 Jan  4 06:18 OWENS
drwxr-xr-x   2 sapftp   sap          1024 May 13 03:50 QWFE_BATCH_COP
-rw-r--r--   1 sapftp   sap         23043 Jan 23 08:18 R006536.P21
-rw-r--r--   1 sapftp   sap         22719 Feb  7 11:45 R007707.p22
-rw-r--r--   1 sapftp   sap         40180 May  8 04:44 R007900.P22
-rw-r--r--   1 sapftp   sap         98014 Feb 22 14:51 R007925.P22
-rw-r--r--   1 sapftp   sap         11162 Oct  5  1995 R008195.P22
-rw-rw-r--   1 sapftp   sap         13702 Feb  1 11:35 R012438.P22
-rw-r--r--   1 sapftp   sap         23155 Jan 23 08:18 R012649.P22
-rw-r--r--   1 sapftp   sap         34207 Feb  5 05:46 R013016.P22
```

Notes

- The `Note.x` subdirectories contain corrections for the corresponding Note number *x*. For example, the subdirectory `NOTE.0009281` contains the corrections for Note number 0009281.
- The `ORACLE` subdirectory contains corrections and other files for the Oracle database on various OS platforms. There are similar subdirectories for other databases and operating systems.
- The `patch` subdirectory (not shown) contains a list of SAP R/3 Releases. Each release contains a list of databases (for example, ADA[Adabas], ORA[Oracle], INF[Informix], MSS[Microsoft SQL Server]). Each database directory has a subdirectory of OS platforms (for example, OSF, Solaris, HP-UX, AIX, SINIX, NT) that contains compressed files.

7. Use the **`get`** command to download the files that you need.

See also:

- Registering Developer and SAP Objects Using SSCR [Seite 164]
- Importing Support Packages with SPAM [Extern]

Importing Preliminary Transports from External Systems (SAP/sapservX)

Use

You might get transport requests from systems that are not part of your installation. For example, the system reseller that installed your system could send you corrections in this way.

If your SAP System is a single system (a one-system landscape), you can find further information in Preliminary Transports in a One-System Landscape [Extern].

If you have to import such a request into your SAP systems, you must first add the request to the import queue of your development system <DEV>. Use the command **`tp addtobuffer <request number> <DEV>`** in the input request of the host operating system here. Then you can import the request into <DEV>.

Importing Requests into System DEV

1. Log onto system <DEV>.
2. Choose  or enter Transaction **`STMS`**. The initial screen of the *Transport Management System* appears.
3. Choose *Overview* → Imports. The system reads the import queues.
4. Double-click <*DEV*> in the *Queue* column or select <*DEV*> and then choose *Import queue* → *Display*.
5. Select the transport request of the preliminary transport and choose *Request* → *Import*.

Test the effects of the imported request in the Customizing and development system <DEV>.

You then have to forward the request to the import queue of your production system <PRD>. Import the request into the client currently being used there (client 410) if you are in the preproduction test phase, or into client 400 or if you have completed Customizing and have deleted client 410.

Forwarding a Request to the Production System PRD

1. Choose  or enter Transaction **`STMS`**. The initial screen of the *Transport Management System* appears.
2. Choose *Overview* → *Imports*. The system reads the import queues.
3. In the *Queue* column double-click <*DEV*>.
4. Select the transport request of the preliminary transport
5. Choose *Request* → *Forward* → *System*.
6. In the *Forward Transport Request* dialog box enter **<PRD>** as the target system. The transport request is added to your <PRD> import queue. You can now import it as described above.

For more information, refer to **Note 13719** (SAPNet - R/3 Frontend).

SAP's Remote Services

Use

SAP provides a number of Remote Services that permit optimal use of your SAP System. For security reasons, SAP can only access your system if you have set up a connection to SAP. Once the connection has been set up, it is possible to analyze the system, detect errors and correct problems.

EarlyWatch

SAP's EarlyWatch is a pro-active service that helps you to ensure that your production SAP system runs smoothly and efficiently. As and when you wish, SAP specialists dial in and check the configuration and components of your SAP System, from the database system, to the operating system, to the network components.

After each EarlyWatch session, you receive a detailed status report that presents a summary of important data on your system and includes recommendations for optimizing your system.

For more information, see: Scheduling an Early Watch Session [Seite 162]

Remote Consulting

Remote consulting offers you fast support from experienced consultants in all phases of your SAP project. Questions on all aspects of SAP R/3 (Customizing, database reorganization, implementation of EarlyWatch recommendations, etc.) are answered quickly, reliably, and in detail. To better answer your question, a specialist usually uses a remote connection to connect to your SAP system.

To arrange for a remote consulting session, see: Requesting a Remote Consulting Session [Seite 163]

Opening a Remote Service Connection

Use

SAP offers a range of Service and Support [Seite 143] to help you if you are experiencing problems or poor performance. If you want a thorough analysis of your system you can set up a Remote Service connection. To avoid any unauthorized access to your system, you first need to a open a connection for Remote Service. Only then can SAP log on to your system.

For more detailed information on setting up a Remote Service connection, see the guide *The SAPNet - R/3 Frontend User Guide*. You can download this guide from the following address: **`http://sapnet.sap.com/oss-guide`**.

Starting pcAnywhere in Host Mode

Use

pcAnywhere is used for the remote administration of 32 bit versions of Windows (Windows NT, Windows 95/98, Windows 2000). It uses the emulation of the graphical interface on screen to follow all actions being performed on a remote host. SAP Remote Support uses this tool to investigate and solve problems in a remote operating system.

Remote Support for pcAnywhere is only possible if pcAnywhere is started in host mode. The procedure for this is as follows.

Procedure

1. Log on to Windows NT as a user with sufficient authorization.

   The authorizations of the logged on user automatically apply to the remote user who uses pcAnywhere to log on to your system. For example, if you are logged on as a domain administrator, the remote user also has the authorizations of a domain administrator.

2. Under Windows NT, choose *Start* → *Programs* → *PCAnywhere32* → *pcAnywhere*. pcAnywhere starts. The switch *Be A Host PC* is already active and must not be changed.
3. Double-click *NETWORK*.

Result

The window *PCAnywhere Waiting...* appears. Your computer can be accessed using pcAnywhere.

Testing a Remote Service Connection

You can test the remote connection to the SAP service server using the testing function of the Electronic Parcel Service (EPS).

Procedure

1. Choose  or enter Transaction **SEPS**. The Electronic Parcel Service initial, screen appears.
2. Choose *EPS* → *Connection test*.

   A list appears showing if the connection worked. The system tries to receive data from the server. If the test fails, note the error message.
3. Choose  to leave the screen.
4. Then select *Send parcels to server* and repeat the connection test.
5. Repeat the test.

A test frequently fails simply because the SAPNet - R/3 Frontend connection has not been opened yet or has been closed. If this is the case, see Opening a Remote Service Connection [Seite 159].

Scheduling an EarlyWatch Session

In SAP's EarlyWatch service, an experienced SAP technician inspects your R/3 System, operating system, and database system remotely. The idea is to give you advance notice of any emerging problems (such as shrinking free space) and to ensure that your system is configured for optimum performance.

You must arrange for an EarlyWatch session, and, as with all SAP remote services, you must first establish a connection to SAP before an EarlyWatch technician can log on to your system.

See also:

SAP Library

- GoingLive and EarlyWatch [Extern]

Requesting a Remote Consulting Session

If you want to request a Remote Consulting Session, create an appropriate customer message in SAPNet - R/3 Frontend (see also Entering a Customer Message [Seite 146]).

Choose the component XX-RC (RC stands for Remote Consulting) and then add the area you are interested in, for example XX-RC-BC.

For more information, see Note 65864.

Registering Developer and SAP Objects Using SSCR

SAP Software Change Registration (SSCR) is a procedure for registering all manual changes to SAP source code and SAP Dictionary objects. Not included in registration process are SAP matchcodes and tuning measures, such as the configuration of database indexes and buffers.

Before you can modify an SAP standard program or Dictionary object, you must register your application developer and the objects that you want to change at SAP.

For more information, see the *R/3 Modification Guide* under:

- Registering a Development User [Extern]
- Registering an Object [Extern]
- Displaying an Overview [Extern]

SAP Internet Link

The SAP home page in the Internet is an important source for the latest information on the SAP System. You can find news, presentations, and much technical information.

In the *SAP Frontend* program group, you can find a predefined icon for starting an Internet browser with the SAP home page as the start page.

Double-click the icon Internet Link to connect to the SAP Homepage to get the latest information about SAP.

Handling Problems: R/3 on AS/400

This document gives you an overview of how to proceed if problems occur.

Problem Categories

There are two main categories of problem that you might encounter.

1. Problems with the hardware, the operating system/database or IBM licensed programs

   Check regularly that you have applied the PTF level recommended by IBM for using R/3 on IBM AS/400. This information is provided by IBM in Information APAR II10553 (for V4R1), II10997 (for V4R2), II11296 (for V4R3) or II11832 (for V4R4). If you have established a connection to ECS, you can download the missing PTFs or request further information from IBM, if necessary.

2. Problems that originate in R/3

   A distinction is made between problems that affect the Basis system and those that affect individual application components such as MM, HR, SD, and so on.

   It is particularly important for you to include all available relevant information in your problem message for SAP.

There are two different ways to report problems to SAP:

- Via SAPNet - R/3 Frontend
- By telephone

Usually, you create a problem message using the SAPNet - R/3 Frontend . Alternatively, you can call local support. However, you should only contact local support if you could not establish a connection to the SAPNet - R/3 Frontend for technical reasons.

Searching for Solutions to Problems

Apart from enabling you to report problems, the SAPNet - R/3 Frontend also provides an extensive database that allows you to search for notes that can assist you in solving your own problems. The SAPNet - R/3 Frontend represents a valuable source of information that should also be used to implement preventive measures. For example, 63058 (for V3R7), 79913 (for V4R1), 92313 (for V4R2) and 144149 (for V4R3 and V4R4) always contain the latest information on currently required PTFs. Another possible option is to open a service connection to SAP that allows an expert to log on to your system.

Important Telephone Numbers

Walldorf (R/3 Service):

- from within Germany 0180/5343431
- international (+49)-180/5343431
- Philadelphia (+1)610/725-4545

- Singapore (+65)2491-700
- Tokyo (+81)3/5440-2010

For telephone numbers worldwide, see R/3 note 38373.

Information Required for Problem Processing

Here is a list of general information required to ensure quick processing of your problems:

- Message number (if it already exists)
- Name of a contact person
- Department name
- Telephone / fax number
- SAP maintenance level of the database and kernel, for example, 4.0B
- Component (for example, BC-DB-DB4 for a problem in the database area or BC-INS-AS4 for an installation problem)
- Type of R/3 System (development, production or demo system)
- Can the problem be reproduced? If so, please explain how.
- How and where did you become aware of the problem? (State when the problem occurred, give a brief description, list any error messages).
- Has the problem been occurring since a particular event? For example, after an upgrade, after a previous error or failure, after changes to the hardware configuration?
- List the error messages given in the log files/job log.
- Installation/migration problems: Fax us the filled out *Form for Information on Installation/Migration* in Appendix D of *Installing R/3 on IBM AS/400*.

Downloading Kernel Patches

Use

Downloading Patches from sapserv(x)

Prerequisites

General

Patches for SAP releases are provided on various FTP servers.

The following currently exist:

- sapserv3 for Europe
- sapserv4 for America
- sapserv5 for Japan
- sapserv6 for Australia

PATCH directory structure on sapserv(x):

general/R3server/patches/<R/3_release>/OS400/<OS_release>/<PATCH>

<R/3_release>	for example: rel. 4.5B,...
<OS_release>	V4R4M0
<PATCH>	*SAVF with the following naming convention: R3TRANS (patch for R/3trans) kernel<nn> (R/3 kernel patch) <transport_name> (R/3 transport file)

general/R3server/patches/rel31H/OS400/V4R2M0/R3trans

general/R3server/patches/rel31H/OS400/V4R2M0/SAPK31HAS5

general/R3server/patches/rel31H/OS400/V4R2M0/KERNEL

Procedure

Downloading Instructions

R/3 Kernel Patch

Only the latest patch for an SAP executable can be found on sapserv(x).

This contains all previous patches for the executable.

1. Log on to the AS/400 system as user <SID>OFR.
2. To stop your R/3 System, enter:
   `stopsap <sid> <instance_no>`

3. To end all jobs apart from your own that are working with your OPT kernel library, enter:
   WRKOBJLCK OBJ(<OPT_kernel_library) OBJTYPE(*LIB)
4. Save your OPT kernel library. This will allow you to use your old kernel again if problems occur.
5. To download the fix, enter:

   APYR3FIX SID(<SID>) SAVF(QGPL/<SAVF>) SAVLIB(GEN<REL>OPT)

   GETSAVF(*YES) FROMHOST('sapservx')

   FROMDIR('general/R3server/patches/rel<REL>/OS400/<OS400_RELEASE>')

   FROMFILE (*SAVF)
   where:

<SID>	is the name of your R/3 System
<SAVF>	is the name of your executable or kernel, for example R3TRANS KERNEL
GEN<REL>OPT	REL is the kernel release, for example GEN30FOPT
rel<REL>	REL is the kernel release, for example Rel 4.5B
<OS400-RELEASE>	is the version of the OS400 operating system, for example V4R4M0

6. Repeat these steps on all application servers.

R/3 Transports generated on AS/400

(These transports are on sapserv(x) in the following directory: general/R3server/patches/rel<REL>/OS400 or general/R3server/patches/COMMON/OS400)

After applying the latest patch, you can now import ABAP corrections with the command APYABFIX as follows:

Log on to AS/400 as user **<SID>OFR**.

Enter the following command:

APYABFIX SID(<SID>)

FROMHOST('sapservx')

FROMDIR('general/R3server/abap/note.0099376')

TRANSPORT('<transport_request>')

For <SID>, enter the system name; for sapserv(x), enter the server responsible for your area, sapserv3, sapserv4 and so on. The entry for the transport request depends on your R/3 database release.

SAPKSTS631H in Release 3.1H

Log on to the AS/400 system as user **<SID>OFR**.

If there are several R/3 Systems all sharing one /sapmnt/trans directory, make sure that you are logged on to the AS/400 system in which the /usr/sap/trans directory shows a local /sapmnt/trans directory.

CHGCURLIB CURLIB(QGPL)

Downloading Kernel Patches

CRTSAVF FILE(QGPL/<PATCH_file>)

FTP SAPSERVx

User ID: ftp Password: ftp

cd general/R3server/patches/<R/3_release>/OS400/<OS_release>

bin

get <PATCH_file> (replace

quit

RST DEV('/qsys.lib/qgpl.lib/<PATCH_file>.file') OBJ(('/sapmnt/trans/*'))

CHGCURDIR '/usr/sap/trans/bin'

TP 'addtobuffer <PATCH_file> <SID>

TP 'import <PATCH_file> <SID>'

R/3 Transports not Generated on AS/400

Proceed as described in note 37987.

See also:

- R/3 Note 63993
- SAP's Remote Services [Seite 158]
- Opening a Connection for Remote Service [Seite 159]

Ready-to-Run R/3

Use

Ready-to-Run is a complete solution to simplify and accelerate an SAP R/3 implementation and has been developed for smaller and midsize companies.

Using an automated installation process and numerous presettings the SAP R/3 implementation period and the consulting time linked to it is greatly reduced.

The automatic preinstallation and preconfiguration contains:

- Operating system installation. You can also build on to an existing operating system (Windows NT) as an option.
- Database installation
- SAP R/3 installation
- Complete SAP Basis Customizing
- Integrating the RRR network (see: Technical Information [Seite 192]) and preconfiguring for remote services (SAPRouter)

Ready-to-Run systems are **standard** SAP Systems that are distinguished by an integrated administration concept, proven system settings and additional system tools. These advantages have no extra costs attached to them.

Installation

When you install an SAP System, you must decide if you want the "classic" method of installation (standard installation), or if you want the Ready-to-Run system. The following tables compare both installation procedures and help you make an easier decision.

	Standard Installation	**Ready-to-Run Installation**
Installation process	User-defined	Automatic
Installation contents	SAP R/3, database, manual configuration	Operating system, SAP R/3, database, network, IP addresses, security,
Hardware requirements	Individual hardware (processor number, processor type, main memory, disk size, tape drive...)	Individual hardware (processor number, SAPS, main memory, additional application servers) or predefined hardware packages.

Ready-to-Run R/3

System landscape	Individual system landscape (Customizing and development, quality assurance, production)	• Two-system landscape: development system and production system • One-system landscape (conforms to ASAP)
Advantages	• Individual configuration of SAP R/3 system landscape and Basis configuration	• Complete administration concept • "Best practices"- settings for system landscape and Basis configuration • Greatly reduced time and cost savings for installation and administration (low cost of ownership) • Additional documentation, Handover Workshop • Backup strategy (backup / recovery)
Disadvantages	• No default processes (default values, options) • Increased consulting	• Limited selection regarding system landscape
Area of use	• Companies with requirements profiles	• Small and midsize R/3 installations

You can find more information under:

Ready-to-Run R/3: System Administration [Seite 173]

Integrating Ready-to-Run R/3 in the IT Landscape [Seite 194]

SAProuter: Managing the SAProuter Utility [Seite 186]

Configuration Reference [Seite 231]

Ready-to-Run R/3: System Administration

Ready-to-Run R/3 lets you easily set up and administrate an SAP R/3 System. The following sections give you an overview of all the essential areas for Ready-to-Run system administration.

Introduction

The SAP R/3 System is for many companies a deciding factor and a critical application in a company's success. A system failure or data loss can hinder or damage many parts of a company.

Therefore, administrating an SAP System is an extremely important task with a lot of responsibility attached to it. The main tasks of an R/3 administrator is to ensure that:

- The R/3 data is protected against data loss
- Preventing unplanned downtime
- Reducing planned downtime to a minimum
- The system is set up for acceptable and cost-efficient performance
- The system is set up for optimal use of the available computer resources

Since the SAP R/3 System is based on a client/server application, it performance depends on a functioning infrastructure in which the various components work well together. System administrator's responsibilities also include this infrastructure, which a large part of the system landscape belongs: the SAP R/3 System, the database system, the R/3 server and database server, the frontend PCs and an extensive network.

In a Ready-to-Run System the administrator has the advantage that the SAP R/3 System is preinstalled and preconfigured according to "best practices". Many decisions are already made for the administrator and the system and administrator is supported by an extensive administration concept. In the following sections, the most important tasks in the Ready-to-Run system administration are covered in detail:

- Checklists for Monitoring and Maintenance [Seite 178]
- Monitoring and Maintenance Tasks [Seite 174]
- Calling the Troubleshooting Guide [Seite 183]
- R/3, NT, DB2: Changing Administrator Passwords [Extern]
- R/3, AS/400: Changing Administrator Passwords [Extern]
- Configuration of the Ready-to-Run System [Seite 184]
- System Administration Assistant [Seite 1]

Monitoring and Maintenance Tasks

The SAP Basis components deliver a series of important services to the R/3 applications. There is a monitoring and maintenance task for each of these services.

You must check these important functions regularly, which checks critical areas of your SAP System. The most important checks are listed in the checklists for daily tasks.

The services listed here generally require monitoring by the system administrator. Maintenance is normally not required.

Use the Alert viewer to automate these checks. The Alert viewer sends you messages automatically if a problem occurs in one of the monitored Basis functions.

Basic Check of the SAP System - CCMS System Monitoring

When you install the system, a monitor group is already defined. The basic monitor contains all the currently available monitoring functions. For more information, see the Tutorial [Extern]. The check contains the following basic areas:

- **Checking the system logs:** The system logs mainly contains start-, status- and other non-critical messages. If serious errors occur in a Basis component, the relevant message is displayed in the system log. Analyze any serious error message in the system log, where you begin with the online message documentation (position the cursor on the message in the system log and press F1). For more information, refer to the R/3 documentation in the section The System Log [Extern].
- **Checking the status of the work processes:** Work processes are the R/3 components that process R/3 transactions and programs. They do not give you a very specific problem check. Look for the status that is *not running* or is *waiting*, and look for entries in the column *Err* showing how often a work process had to restarted automatically. For more information, see Monitoring Servers and Work Processes [Extern] and Overview of SAP Application Servers [Extern].
- **Checking for ABAP dumps:** If ABAP dumps have occurred, this indicates a terminated ABAP program (a transaction or a report) due to a serious problem. There should **never** be any ABAP dumps in your production system. If this does occur, there may be an error in the ABAP code, an internal R/3 problem, or a system problem. If you find a dump, read the explanation on the dump to see if you can localize and correct the problem. There is available documentation in the System Administration Assistant: R/3: Checking for ABAP Dumps [Extern].
- **Checking for update errors:** The update system is the component with which the most important R/3 database updates occur. Update errors should **never** occur. However, if they do occur, this indicates that a database change was probably not performed because the program making the update contains an error, or there is an error in the database preventing a successful update. For more information, refer to the documentation in the section Updates in R/3 [Extern].

Checking for errors in the lock system: The lock system is an additional, elemental SAP service that must run without any problems in your production system. The Lock system ensures that R/3 users cannot change data simultaneously, which would make the data inconsistent. In addition to error messages from the lock system in active SAP Systems, old lock entries (older than a few minutes with interactive users) can pint out problems. These entries can be caused by

the users that are executing a transaction for a log time, by update errors or by a SAPgui session on a frontend PC that ends with errors. For more information, refer to the R/3 documentation in the section The R/3 Lock Concept [Extern].

The R/3 Background Processing System

The background processing system processes longer running reports to prevent interactive R/3 sessions from lowering performance or that terminate due to time limits. Some of the jobs belonging to the background processing system include the important system maintenance programs (for example, various reorganization programs).

Monitoring: You must check daily if jobs were terminated. If there are, you must:

- Find what caused the job to terminate using the job log
- Correct the problem, if it was not a temporary problem
- Determine if the job must be executed again. You usually do not have to start scheduled maintenance jobs (such as a reorganization) manually. You can wait until the job is executed automatically. For other jobs, such as the jobs scheduled from SAP applications, this is more complicated. In these cases, you must speak with the person who scheduled the job to decide if the job must be executed again.

For more information, refer to the R/3 documentation in the section Managing Jobs with the Job Overview [Extern].

Maintenance: Certain users are authorized to schedule jobs, but are not allowed to release them. Before a job can be executed, it must first be released.

Therefore, frequently look for jobs that were not released. If you find this kind of job, check the job details to ensure that you want to allow the contained reports/programs to be executed. Then decide when the job should run (nights). Then release the job.

For more information, refer to the documentation in the section Managing Jobs with the Job Overview [Extern]

In certain cases, you must make configuration changes while your system is operating:

- **Adding background work processes:** If you determine that background jobs have to wait too long to be executed or that they cannot all be executed at night (or if there are no interactive users logged on), add more background work processes. To do this, use the predefined operating mode for night operation to change several dialog work processes at night into background work processes. Switch to the transaction for maintaining the operation mode and follow the standard documentation. Then look for division of work processes, which explains how to adjust your night operation so that it contains more background work processes.
- **Reserving background work processes for jobs in "class A":** If you determine that you have critical jobs that have to be processed as soon as possible, you need to reserve one or several background work processes for jobs with the attribute *class A*. Follow the standard documentation. Look for the section *Priority Strategies*: *Reserving Work Processes for Class A Jobs*, which explains how to reserve background job processing capacity for the most important jobs in class A.

The Transport Management System (TMS)

The Transport Management System (TMS) enables you transport SAP R/3 program code and Customizing data between your SAP Systems. This is important in the introductory phase during

which you transport your programming and Customizing changes from system <DEV> to system <PRD>.

After you go live, you will have to work with Transport Management System, if you continue developing programs in <DEV> and when you install an SAP upgrade.

Monitoring:

Check the following transports in the Transport Management System:

- **Transports to be finished:** Developers and Customizers can export their changes out of <DEV>, but they must explicitly import these changes into <PRD>. The changes are not imported automatically into the production system. For more information, see R/3: Importing Requests into the Production System PRD [Seite 109].
- **Transports with errors:** An error in the export log or import log of a transport may mean that the transport was not completed successfully. If you find an error, you must analyze it and ensure that the transport is successfully completed. Otherwise, there may by errors in the Customizing or in programs in the production system. Check the export log or import log for more information on the error. For more information, see R/3: Checking Export Logs in <DEV> [Extern] and R/3 Checking Import Logs [Seite 100].

Maintenance:

Apart from starting the import, there is no regular maintenance to perform in the Transport Management System. Since the Transport Management System is also completely preconfigured, you do not have to make any configuration changes, unless you add another SAP System.

Batch Input Processing

Batch input processing imports data from other business application systems into the SAP System. This is of particular importance when you implement the SAP System in order to copy data that is already available.

If you need to regularly import data from other sources (systems that were not replaced by SAP), you must still work with batch input processing after going live with your SAP System.

It is important that you remain informed about all regular batch input data transfers into your system. Discuss this with the person responsible for your SAP applications and with the person responsible for your other systems.

Monitoring: Check if the batch input files have the following status:

- *Incorrect*: At least one transaction terminated prematurely in the session
- *To be processed*: One session was not processed. If you already know the batch input session, you can process it. If you are not sure if it should be processed, ask the session or the person responsible for the relevant SAP application.

For more information, refer to the SAP documentation in the section Managing Batch Input Sessions [Extern].

Maintenance: Starting unprocessed sessions and correcting incorrect sessions are the only administration tasks in the batch input system.

If you need to, you can change the configuration: automatically process batch input sessions. If you schedule the report `RSBDCSUB` as a background job for daily execution, new sessions are automatically processed.

Database Monitoring and Maintenance

Keeping your data safe must be your highest priority. The backup and restore process strategy recommended by SAP ensures that you are protected if a problem occurs causing data loss in an active system.

Errors that can cause data loss are rare. However, since your data cannot be replaced in many cases, we strongly recommend following the SAP backup strategies.

A thorough backup strategy is already implemented in your Ready-to-Run system.

The necessary tasks, the time of execution for these tasks and their procedures are listed in the System Administration Assistant checklist.

If your Ready-to-Run system is based on Windows NT, you can find more information on monitoring and maintenance tasks in the section Additional Tasks under Windows NT [Seite 182].

If your Ready-to-Run system is based on an AS/400 system, you can find more information on monitoring and maintenance tasks under Additional Tasks on AS/400 [Seite 179].

Checklists for Monitoring and Maintenance

Use

The System Administration Assistant [Seite 1] was developed as an integral component of the Ready-to-Run R/3 System. The SAA is a high performance R/3 tool that supports the administrator in performing all important and regular tasks. The *System Administration Assistant* contains checklists that help you process these tasks.

Monitoring

You must use the System Administration Assistant to regularly monitor important components and services in the R/3 Basis, database and operating system for any errors.

If you find errors, use the tools provided in the R/3 System to analyze and solve the problem. If it is a critical problem that you cannot solve, contact the EarlyWatch Service [Seite 162], SAP Remote Consulting [Seite 158] for help, or search for Notes in SAPNet - R/3 Frontend [Seite 145].

If you think an SAP error is the cause of the problem, enter a problem message [Seite 146] in SAPNet.

Maintenance

Some R/3 Basis components and the database require special attention. For example, you need to release background jobs, process batch-input sessions, back up the database, and so on. These tasks are also included in the System Administration Assistant checklists.

See also: Monitoring and Maintenance Tasks [Seite 174]

Additional Tasks on AS/400

The R/3 Spool System

The spool system is responsible for printing in the R/3 System. It works with the print managers in your AS/400 servers and frontend PCs to print R/3 documents. As delivered to you, the spool system is set up to use the printer delivered with Ready-to-Run R/3. The development server (DEVSAP) is set up as the printer server for your R/3 Systems.

Monitoring: You should check every day for output requests in which errors have occurred. Such requests may not have been printed and may have to be reprinted from the spool output controller (check with the user who created the output request).

The most frequent source of errors is problems in the path that output data must follow from R/3 to a Windows printer. For example, if a printer server PC is off, an output request that is to be printed on that PC will end with an error.

The spool installation check also checks for problems in printer connections.

See also:

- R/3: Checking the Spool System [Extern]

Maintenance: The most frequent task you will have to perform is to add new printers. We recommend that you keep your R/3 printer access centralized in the Ready-to-Run R/3 development server or in existing printer servers at your company.

See also:

- Printing: Installing New Printers [Extern]
- Ready-to-Run R/3: System Administration [Seite 173].

Backup Strategy

Your backup strategy must ensure that the following resources are protected against any loss of data:

- **AS/400 configuration and objects** (for example, AS/400 users or R/3 System profiles) on your servers

  Backup: The AS/400 system is saved with a full AS/400 system backup on each of your servers (the R/3 server PRDSAP and the development server DEVSAP). For this backup, you have to stop your R/3 Systems.

- **The structure of your DB2/400 server databases**

  To restore your database quickly and easily after a crash, you must be able to restore the current structure of the database to the R/3 System. If the structure is up-to-date, restoring the database is simply a matter of restoring the most recent full backup of the database and subsequent journal log files, and recovering the data in the journals.

  Requirements for full AS/400 backups: Since the AS/400 backup is essential for restoring the AS/400 server and the database structure, you have to perform a full system backup whenever you change the configuration of your AS/400 server(s) (add a user or software, change parameters, and so on).

  Additionally, you should perform full system backups at least monthly and at the end of the year.

Additional Tasks on AS/400

These requirements apply to both the R/3 server and the development server.

How to perform: This is a manual procedure (not automatically scheduled). For more information, see Performing a Full System Backup on AS/400 [Extern].

- **The data in your R/3 DB2/400 server databases**

  A full AS/400 backup saves the entire system, which should not change quickly. However, a full backup is not necessarily suitable as a current backup of the database data.

  Backup: To make sure that a current backup of your data is always available, you have to perform a full database backup. Since this type of backup runs online, you have to shut down the R/3 System for a short time.

  Requirements for full database backups: By default, this type of backup is scheduled for each workday. Schedule additional backups if your R/3 System(s) are in productive use during the weekend. These requirements apply to the databases of both of your R/3 Systems, <DEV> and <PRD>.

  How to perform: These backups are scheduled from the AS/400 and start automatically. You only have to make sure that the correct tape is inserted.

- **The transaction logs (journal) of your databases**

  The transaction log of your DB2/400 server database records all changes to your database. During the database restore, it is used to repeat any changes that were made since the online database backup used for the restore.

  Backup: The contents of the transaction log (journal) are saved with a daily online backup.

Recovery Strategy

SAP's recommended backup strategy allows you to restore a damaged DB2/400 server database quickly and easily.

The strategy is as follows:

1. Back up the transaction log (journal library) using the *AS/400 SAVE* menu.

   Any database changes that have been made since the most recent regularly scheduled transaction log backup are saved.

2. Recover the most recent full AS/400 backup of this server using the RESTORE procedure.

   If you have followed SAP's recommendations, the current server configuration, the database structure and the data in the database as of the last full database backup are restored.

3. Restore transaction log (journal) backups that were made after the online database backup using the RESTORE procedure.

   Most or all of the database changes that were made since the last full online backup will become effective

4. Recover (reprocess) the data in the transaction log (journal files) using the RESTORE procedure.

   The data in the database will be restored to the status it had at the time of the most recent transaction log (journal).

AS/400 Monitoring and Maintenance

Managing AS/400 is the easiest task you have to perform as R/3 System administrator. Since OS/400 is preinstalled on your servers and preconfigured for running R/3, the only configuration task that you have to perform is to back up the server configuration using the *SAVE* menu.

- **Monitoring**: The goal of your monitoring activities in AS/400 is to detect problems at operating system and hardware level of your R/3 infrastructure To do this, you will have to check the AS/400 log on each server daily. The *Operations Checklist* also lists a few tasks.
- **Maintenance**: Only a few regular maintenance tasks are required, such as changing AS/400 administrator passwords. These tasks are listed in the *Operations Checklist*.

Additional Tasks Under Windows NT

Prerequisites

The following tasks are only for Ready-to-Run systems that run on the Windows NT operating system.

Monitoring and Maintenance of Windows NT

When administrating Windows NT you need to pay attention to a few points.

Configuration: Since Windows NT is already preinstalled on your server and is preconfigured for to run the SAP System, there are no configuration tasks required.

Monitoring: Monitoring under Windows NT is intended to recognize problems on the operating system level and hardware level. To do this, you must check the NT Event Log every day on each server. In the checklists for operating the SAP System, there are several other tasks listed, for example checking the USV status and monitoring the hard disks.

Maintenance: There are only a few regular maintenance tasks to perform such as changing passwords for Windows NT administrators.

See: Windows NT, R/3 DB: Changing the Administrator Password [Extern].

Another important task is backing up all current Windows NT systems. You can find a list of these tasks in the Checklist. [Seite 124]

R/3 Spool System

The R/3 spool system administrates all the printing processes in an SAP System. It works with the Print Manager on the Windows NT servers and frontend PCs to output SAP R/3 documents on Windows printers. When Ready-to-Run is delivered, the spool system is already operational foe the printer that is delivered. The Utility Server functions as a print server for your SAP Systems.

Monitoring: Check daily if there are faulty output devices. These requests were not printed and they have to be printed again by the spool output control. Ask the user who created the print request.

A common cause or error during printing under Windows are incorrect or non-existing paths. For example, if a PC is switched off that functions as the print server, a print request that is supposed to be printed on this PC ends with an error.

The spool installation check also looks at the printer connections for possible errors.

Among the most often-performed tasks is adding a new printer. We recommend enabling R/3 printer access centrally using the Ready-to-Run Utility Server or other printer servers that already exist in your company.

See:

- R/3: Checking the Spool System [Extern]
- Printing: Installing a New Printer [Extern]

Calling the Trouble Shooting Roadmap

Use

The *Trouble Shooting Roadmap* has been developed to help you administrate your SAP System. It helps you to find the solutions to some common problems as well as to analyze unusual difficulties.

The guide offers a roadmap view of problems. You can use this structured roadmap to analyze the problem through a question-and-answer procedure. It is structured from the problem area point of view. You can also use the technical views to go directly to the area that you suspect is causing the problem.

The guide is divided into three sections. Follow the link to the main menu and choose the correct problem area, or go directly to the technical views.

Problem-oriented View

You can use this view if you cannot define the cause of the error more closely. Using the symptoms you have observed the system tries to trace the way back to the cause of the problem.

Technical View

You can use this view if you have a definite idea system (database, operating system, network…) where the cause of the error occurred in the system.

Procedure

1. In the System Administration Assistant enter Transaction **`SE37`**. The *Function Builder* initial screen appears.
2. In the *Function module* field enter *SAA_Trouble_Shoot*.
3. On the same screen choose from the pull-down menu *Function module* → *Test* → *Single test*.
4. Choose  .

Result

The *Trouble Shooting Roadmap* is displayed.

Configuration of the RRR System

Ready-to-Run Systems are unique in that they are configured while the R/3 System is installed.

The following tables show the most important configuration tasks and their status in Ready-to-Run R/3:

System Administration: Installation and Setup of the Infrastructure

Configuration Task	Status
Sizing and setup of the hardware	Individual sizing of hardware components (as of RRR 4.5B) or predefined packages
Server installation and setup (installation in rack, linking of cables, USV??)	Pre-installed
Installation and setup of the network hardware	Pre-installed (see also Technical Information [Seite 192])
Installation of the system software, network software, database software and R/3 software	Pre-installed
Setup of the network software (domain, IP addresses, DHCP and WINS servers, domain users, and so on)	Pre-configured according to user specifications
Installation and setup of SAProuter	Done by your Remote Services Partner
Frontend PCs: Installation and setup of operating system, network, SAPgui software	Pre-installed/pre-configured
Integration of the Ready-to-Run R/3 network into an existing network	Instructions are provided to help you

System Administration: R/3 Basis Configuration

Configuration Tasks	Status
Definition of clients	Already done.
Definition of instances and operation modes	Already done. <PRD> can be a central system, or it can have a central server and up to two extra application servers. (Central system: All R/3 services run on the central server). The Customizing and development system <DEV> is always a central server system. Both day and night operation modes are defined; only the day mode is active.
System profile maintenance	Profiles for the different Ready-to-Run R/3 models are pre-defined and already active.

Setup of the print system	The Ready-to-Run-R/3 printer is pre-defined. Instructions are provided to help you set up other printers.
Installation of an additional language	Already done according to user specifications.
Definition of logon groups	Already done.
Set the alert thresholds	Thresholds for the different Ready-to-Run Systems are pre-defined and active.
Definition of development classes	Development classes for customer developments are pre-defined for each R/3 application.
Set up the Transport Management System (TMS)	Pre-defined for a system landscape that consists of <DEV> and <PRD>.
Import of any Support Packages/Legal Changes	Already done.
Definition of standard users Definition of users for your company	Can be imported into the system with a special change request (delivered). This must be done by you. You can use the standard users and the profile generator as templates (if they have been imported).
Configuration of background processing systems	Already done. No work processes are reserved for jobs in class A.
Scheduling of regular background jobs for system maintenance (such as reorganization)	Already done.
Database backup procedure	Pre-defined and implemented in the R/3 System (CCMS).
Set database parameters	Parameter values for the different Ready-to-Run models are pre-defined and active.

SAProuter: Managing the SAPRouter Utility

SAProuter is a software that is delivered with your SAP System. Together with the Ready-to-Run R/3 Router, SAProuter provides a protection mechanism for your SAP System.

The SAProuter service is automatically started on your utility server in Ready-to-Run Systems (called SAProuter server in the following) once the system is booted and runs permanently. All customer computers access the SAP service system using SAProuter on the SAProuter server. This means that this server must always be in operation, and the SAProuter service has to have been started.

SAProuter consists of the program `SAPROUTER.EXE` and its SAPROUTTAB, a table to be edited manually (for example, with Notepad). The table is located in `C:\saprouter\saprouttab` on the SAProuter server. The following is one example of how it may appear:

P 147.204.2.5 192.168.0.1 3201

P 147.204.2.5 192.168.0.2. 3200

P 192.168.0.* 147.204.2.5 3299 # SAPNet - R/3 Frontend

P 147.204.2.5 192.168.0.* 5631 # pcANYWHERE

P 147.204.2.5 192.168.0.* 23 # Telnet from SAP

The ‘P’ at the beginning of each line means ‘Permit’. In the first two lines, access to the IP addresses 192.168.0.1 and 192.168.0.2 from SAP is permitted. Access is permitted through the service ports 3201 and 3200 only. The third line allows you to access from the Ready-to-Run systems and all Ready-to-Run front-ends (* indicates that all hosts that start with this IP address can have access) from the SAP service host. If other servers or PCs with other IP addresses are to be allowed access to the SAPNet - R/3 Frontend, the SAPROUTTAB must be manually edited and re-activated.

SAProuter: Starting the SAProuter Service on DEVSAP [Seite 190]

SAProuter: Stopping the SAProuter Service on PRDSAP [Seite 189]

SAProuter: Editing a New SAPROUTTAB [Seite 187]

SAProuter: Activating a New SAPROUTTAB [Seite 188]

SAProuter: Starting SAProuter Information [Seite 191]

SAProuter: Editing a New SAPROUTTAB

If you want to set up SAPNet - R/3 Frontend access from other servers, or from other PCs than the configured front ends, change this manually in the SAPROUTTAB table. Then assign the new SAPROUTTAB to the SAProuter.

Procedure

1. In the System Administration Assistant choose  .
2. Enter the name of the host on which SAProuter is running as the transaction parameter.
3. Choose ***Edit SAProuttab***.

   You can also edit SAProuttab with the operating system editor.

   The current SAProuttab is displayed in the following form:

   P 147.204.2.5 192.168.0.1 3201

   P 147.204.2.5 192.168.0.2 3200

   P 192.168.0.* 147.204.2.5 3299
4. Enter the IP addresses which are also to have access to SAPNet - R/3 Frontend under the third line. Do this in the same way as in step 3. The first IP address is the one that is to be added, while the second IP address is copied over unchanged. This can appear as follows, for example:

   P <insert the additional IP address here> 147.204.2.5 3299
5. Save the modified SAProuttab.
6. To activate the new SAProuttab, choose the relevant system and then *Reread SAProuttab* or stop and restart the SAProuter service.

SAProuter: Activating a New SAPROUTTAB

If you have made changes to SAProuttab, you have to activate them, which makes them known to the SAProuter service.

Windows NT

Under Windows/NT you must activate the SAProuter changes by stopping and restarting the SAProuter services.

Other System Platforms

1. In the System Administration Assistant choose  .
2. Enter the name of the host on which SAProuter is running as the transaction parameter.
3. Choose ***Reread SAProuttab***.

SAProuter: Stopping the SAProuter Service on PRDSAP

Use

This function stops the SAProuter on the SAProuter server.

Procedure

1. In the System Administration Assistant choose  .
2. Enter the name of the host on which SAProuter is running as the transaction parameter.
3. Choose  . This stops the SAProuter. Ensure that at least one SAProuter is running to enable access to the SAPNet - R/3 Frontend.

SAProuter: Starting the SAProuter Service on DEVSAP

Use

This function starts the SAProuter on the SAProuter server. In Ready-to-Run Systems this is the Utility Server. Normally the SAProuter should be started automatically. If you need to, you can restart the router manually using this procedure.

Procedure

1. In the System Administration Assistant choose  .
2. Enter the name of the host on which SAProuter is running as the transaction parameter.
3. Choose ***Start SAPRouter***. This starts the SAProuter. Ensure that at least one SAPRouter is running to enable access to the SAPNet - R/3 Frontend.

SAProuter: Starting SAProuter Information

Use

The function SAProuter Info provides information on the SAProuter service. It gives you detailed information on all running activities of the SAProuter, as well as active and inactive SAProuter connections

Procedure

1. In the System Administration Assistant choose  .
2. Enter the name of the host on which SAProuter is running as the transaction parameter.
3. Choose ***SAProuter Info***

Technical Information

Choose the operating system you require:

Windows NT [Seite 193]

AS/400 [Seite 228]

Windows NT

Network Integration of Ready-to-Run R/3 into the IT Landscape [Seite 194]

Integration of Ready-to-Run R/3 into the IT Landscape

Use

Ready-to-Run R/3 is a complete technical solution. It includes the network that connections the R/3 servers, the RRR Utility Server and the initial frontend PCs together. Access to SAPNet - R/3 Frontend [Seite 144] is already pre-configured.

You can use these pre-configured Ready-to-Run network components to quickly set up an independent network, and then test it with your own frontend PCs.

Operating the system productively means increasing the number of users, and for this you need extra frontend PCs. You also usually have to integrate the Ready-to-Run System into an existing company network. The following chapters give you more details on the best method of doing this.

The advice of experts is essential when you plan the network in which you want to operate your system productively. Only a well-planned network can guarantee the smooth operation of your R/3 System.

Network Concepts for Ready-to-Run R/3

There are several ways of integrating additional frontend PCs into a network:

- Extending the Ready-to-Run R/3 network
- Integrating existing networks (for example, PC workgroups) into the Ready-to-Run R/3 network
- Integrating the Ready-to-Run R/3 network into an existing company network

The following sections discuss these options in more detail.

Physical Network

The Delivered Ready-to-Run R/3 System

The delivered Ready-to-Run R/3 packages contains the following network components:

Network Switch

This switch is used to connect all servers and to add any frontends. The switch connects the production server, the development server, the RRR Utility Server, the frontends and the router. It comprises the collapsed backbone of the RRR network.

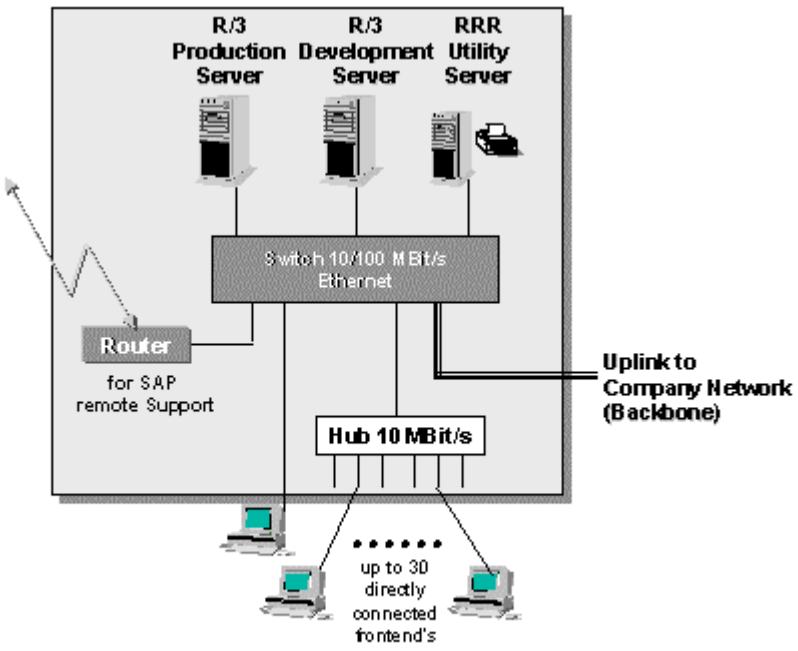
Router

The ISDN connection to SAP Remote Services (SAPNet - R/3 Frontend) is set up through the router.

You can also use extra hubs to link more frontend PCs.

Basic Configuration of the Ready-to-Run Network

The following simple network configuration is based on the components delivered in the Ready-to-Run package and can only be used for a limited number of directly connected frontend PCs.



Physical Network for Ready-to-Run packages

Other Frontends

You can add extra frontend PCs (TCP/IP) [Seite 209] to the RRR network. This is a good idea, for example, if the PCs use the functions of an LAN server, but not of the R/3 System.

Existing Networks

If you already have a network infrastructure, you must integrate the Ready-to-Run network into the existing network [Seite 210].

Expanding the Physical Network

Use

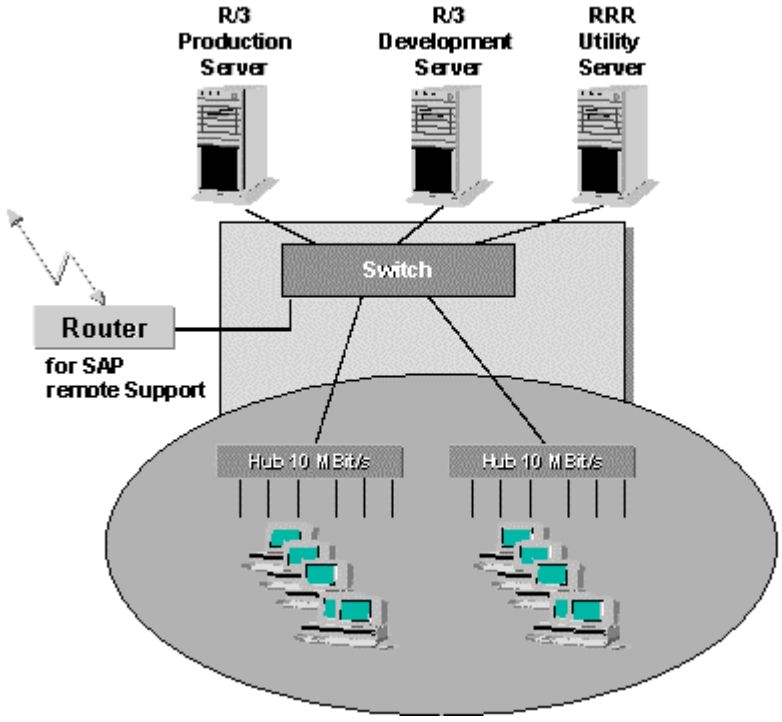
You can use the network components delivered with Ready-to-Run to set up a simple RRR network for test purposes. However, the number of users rises when you start using the network productively, which means you need to expand it.

Linking Extra Frontend PCs

You can link extra frontend PCs by using one of the following options:

a) Linking Extra Hubs to the RRR Network

Use the following configuration for a maximum of 30 PCs only. This is not limited by the SAPgui accessing the R/3 System, but by the RRR Utility Server as the domain controller, WINS Server, DHCP Server, file server and print server. You must make sure that you do not overload the RRR Utility Server by adding to many extra PCs.

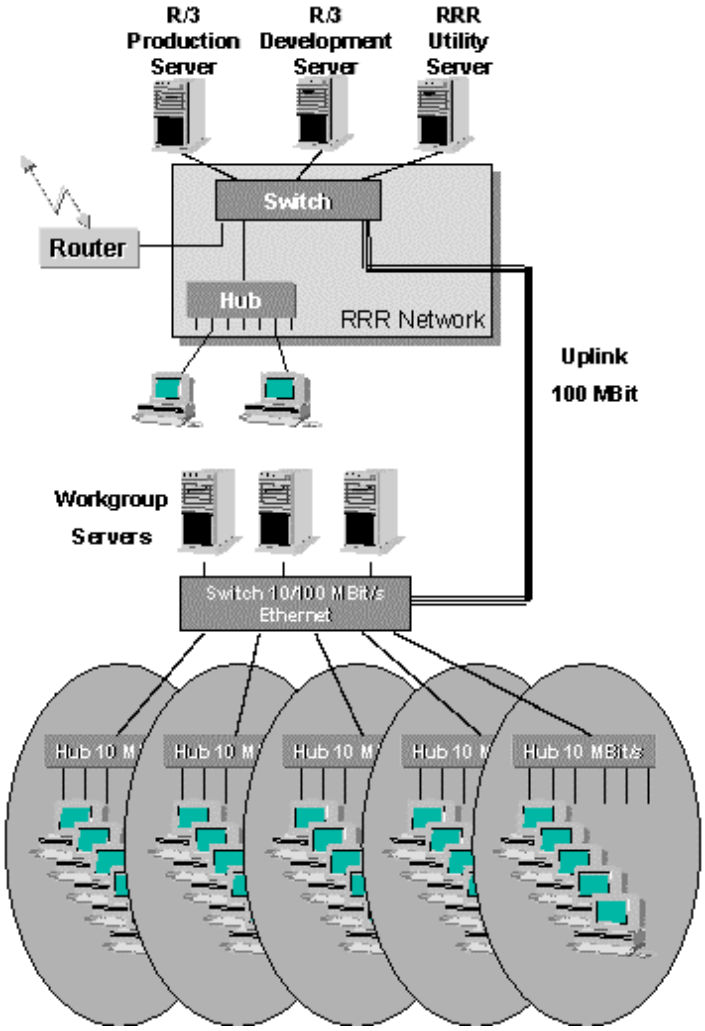


b) Setting Up Extra Workgroups

You can expand the Ready-to-Run R/3 network by setting up extra dedicated workgroups, each of which form a segment with a separate LAN server. This strategy lets you link far more PCs than the 30 PCs allowed when you link extra hubs to the RRR network. The RRR Utility Server of the Ready-to-Run R/3 network can be used as an example. For an example of the procedure, see the following graphic.

You should keep to the domain concept [Seite 221] and the convention for assigning IP addresses.

You must use a backbone to interconnect the individual workgroup segments. Depending on the way the workgroups are distributed physically, this backbone can be an FDDI ring, or a simple collapsed backbone consisting of another switch (see the graphic below). The RRR network functions as an extra segment (just like an extra workgroup) that can be linked to the backbone, or that can be connected to other switches with an uplink:



Integration into an Existing Network

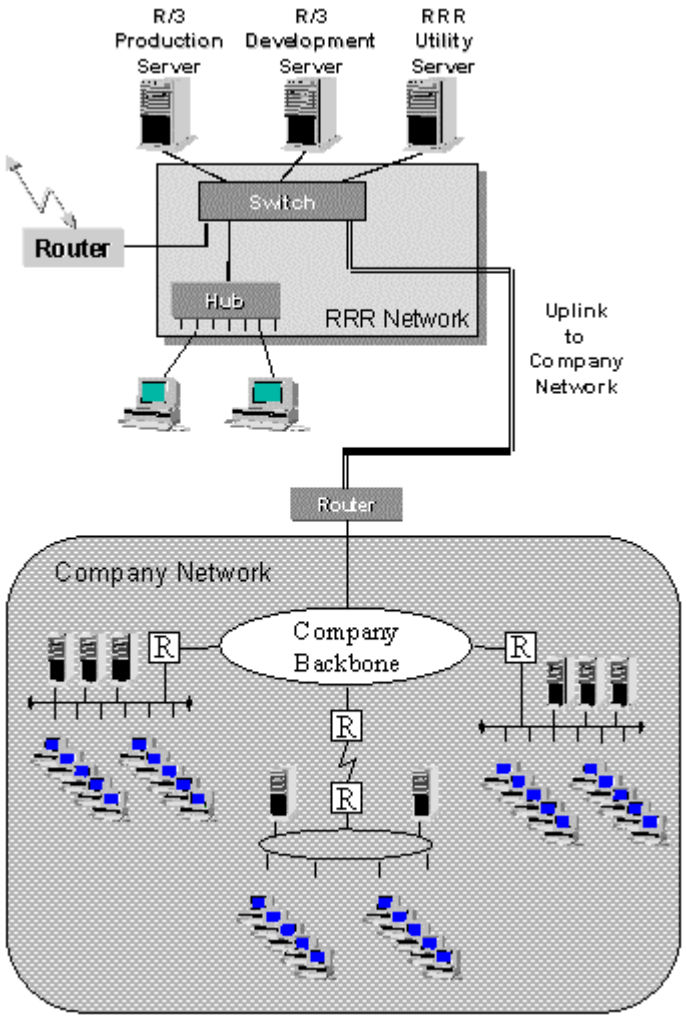
Use

Before you integrate the Ready-to-Run R/3 network into an existing network infrastructure, you must find out whether the existing networks fulfil all requirements. You may harm performance if you do not plan the integration of the network segments in advance. When you integrate the RRR network into the corporate network, you must make sure that no external data (such as NetBIOS broadcasts) can enter the RRR network. You can use a router to filter out any non-SAP data traffic.

The following descriptions and graphics show how you can integrate an RRR network into an existing corporate network:

Corporate Networks with Central Backbone

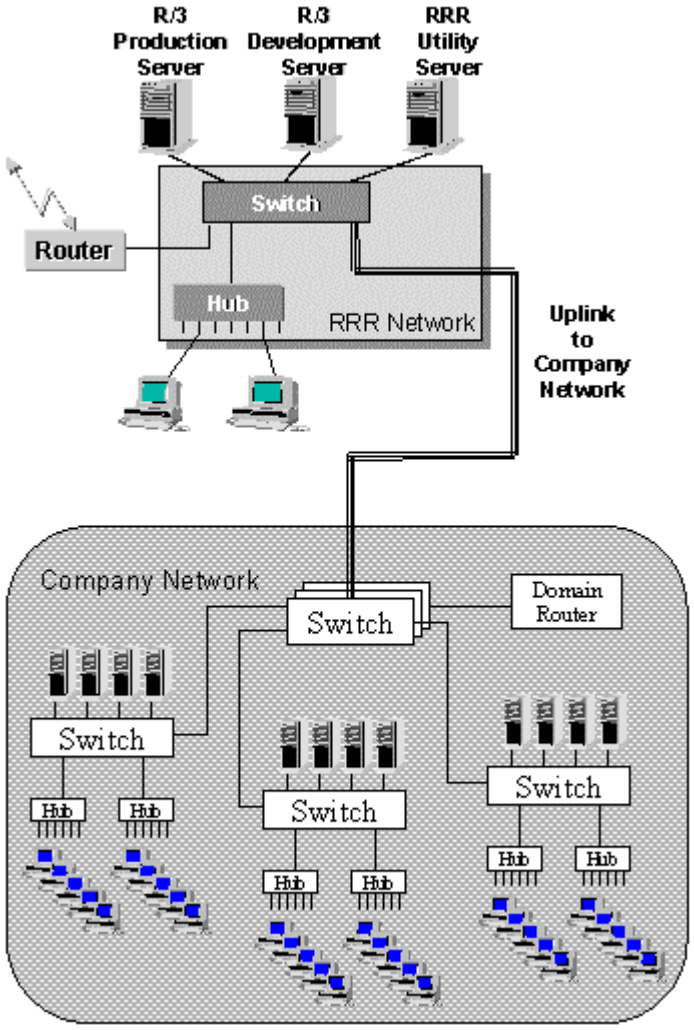
Corporate networks with a central backbone use a router to connect the RRR network to the backbone just like any other segment. The following graphic shows this configuration:



Corporate Networks with a Backbone Based on Switches

Corporate networks with a central or distributed backbone based on switches connect the RRR network with the closest backbone switch. The following graphic shows this configuration:

Integration into an Existing Network



TCP/IP Protocol Layer

IP Address Concept

The Ready-to-Run R/3 solution also includes a concept for assigning IP addresses and host names for computers. Proposals for IP addresses and host names are entered in the *Configuration Assistant* during preparations for installation.

Only change these pre-defined IP addresses and host names if it is absolutely necessary.

Private IP Addresses

The Ready to Run R/3 network uses IP addresses according to RFC 1918 standard. This standard refers to private, unregistered IP addresses, which can only be used for internal company networks. This type of addressing does not restrict remote connections over the public network, if these connections are made through a router using IP address translation. For security reasons, access to the public network is often set up using a “firewall” computer with a registered IP address.

SAP recommends a combination of router and firewall host as the most secure and flexible way of connecting R/3 Systems to the public network, with the firewall host running the SAP software *SAProuter*.

SAP recommends that DHCP (*Dynamic Host Configuration Protocol*) is used for dynamically assigning IP addresses for the R/3 frontends. This provides flexibility for the frontends and simplifies the extension of the TCP/IP network [Seite 208].

Assignment of IP Subnets

The Ready-to-Run R/3 network uses class C IP addresses with 254 hosts per subnet. Of the 255 possible subnets, the Ready-to-Run R/3 network uses the following default value:

Description	Net-ID	Network Name
RRR network	192.168.0	rrrnet

If the network is extended, additional subnets can be added in the same way.

Address Ranges for Assignment of IP Addresses

For better transparency when assigning IP addresses, address ranges have been set up for different purposes in Ready-to-Run R/3. These areas can be transferred to additional subnets when the network is extended. The areas are as follows:

Address Range	From	To
Servers in RRR network	192.168.0.1	192.168.0.99
Front-end PCs (DHCP)	192.168.0.100	192.16.0.200
Network printer	192.168.0.201	192.168.0.210

General purpose	192.168.0.211	192.168.0.220
Network components	192.168.0.221	192.168.0.229

Static IP Address Assignment

The IP addresses and the host names of the Ready-to-Run R/3 servers are fixed. A static `hosts` file is used to make this information available to all servers and frontends. DNS is intentionally not used for the servers due to performance reasons. The addresses and host names are as follows:

System	Computer name	IP address	Host name
RRR utility server	RRRSAP	192.168.0.1	rrrsap
Development and Customizing system <DEV>	DEVSAP	192.168.0.2	devsap
Production system <PRD>	PRDSAP	192.168.0.3	prdsap
Application server 1	PRDAPP1	192.168.0.4	prdapp1
Application server *n*	PRDAPP*n*	192.168.0.*n*+3	prdapp*n*
Router to SAP Remote Support		192.168.0.222	
"Default gateway" as an additional IP address of the RRR Utility Server		192.168.0.223	

Dynamic IP Address Assignment for Frontend PCs

All frontend PCs use DHCP for the assignment of IP addresses. A DHCP server administrates an IP address range (DHCP scope) reserved for the frontend PCs and assigns an address to a PC on request.

In the Ready-to-Run R/3 network the RRR utility server RRRSAP acts as the DHCP server.

DHCP Scope

The following IP address pool (DHCP scope) applies to all frontend PCs in a subnet that are directly connected with the RRR network.

Start address: 192.168.0.100

End address: 192.168.0.200

Subnet mask: 255.255.255.0

You must define a separate DHCP scope on another DHCP server for all DHCP clients (that is, frontend PCs) **outside** the RRR network.

Host Name Resolving Using WINS

DNS (*Domain Name System*) is normally used for resolving host names in IP addresses in TCP/IP networks. DNS uses static tables for making this assignment.

In Microsoft Windows environment names are often resolved using WINS (*Windows Internet Name Service*) in connection with NetBIOS. In contrast to DNS servers, WINS servers use dynamic tables. Dynamic IP addresses are assigned to the DHCP clients and are then registered together with the NetBIOS names on the WINS server. In Ready-to-Run R/3, the Utility Server is both the DHCP server and the WINS server.

The NetBIOS computer name and the DNS host name must be the same to allow access using TCP/IP and NetBIOS.

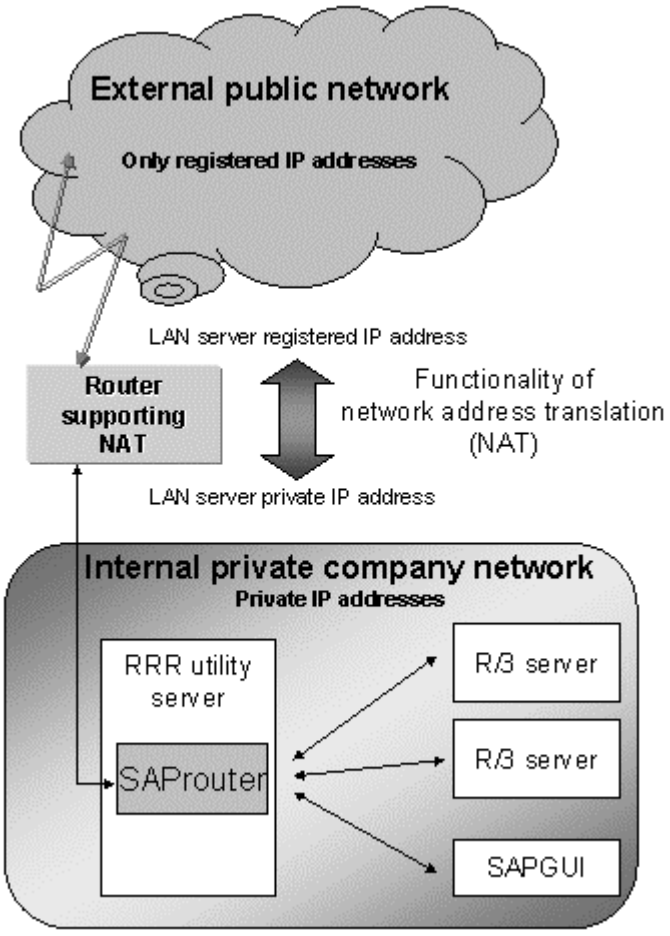
Integration into the Public Network with Registered IP Addresses

The enormous growth of the Internet has led to a shortage of officially registered IP addresses. This means that today it is no longer possible for all computers in a private company network to have registered IP addresses, which would enable them to communicate using the public network.

The private IP addresses defined in RFC 1918 enable the selection of a class A, B, or C address as required. However, in this case you must configure NAT (network address translation) in the router for all computers that need to communicate beyond the private company network. The resulting extra configuration can be a big job when a large number of computers are involved.

With the R/3 System, extra configuration is not necessary. Instead, all external SAP communication is handled by SAProuter. This enables all IP data traffic heading externally to pass through an application layer gateway (the SAProuter) and so be processed with a single IP address. Therefore, for Ready to Run R/3, you only need to set up a single entry for the RRR utility server – running the SAProuter software – on the router using NAT. This means that only the RRR utility server is defined to the public network with a single registered IP address.

The following graphic illustrates this principle:


External public network
Only registered IP addresses
LAN server registered IP address
Router supporting NAT
Functionality of network address translation (NAT)
LAN server private IP address
Internal private company network
Private IP addresses
RRR utility server
SAProuter
R/3 server
R/3 server
SAPGUI

Expanding the TCP/IP Network

If you want to add extra frontend PCs or whole workgroups to the Ready-to-Run R/3 network, you must stick to the TCP/IP Network Concept [Seite 204].

For more information on expanding the Ready-to-Run R/3 TCP/IP network, see Connecting Extra Frontend PCs (TCP/IP) [Seite 209].

Connecting Extra Frontend PCs (TCP/IP)

Use

The Ready-to-Run-R/3 network has a pre-configured DHCP server (Utility Server), that assigns the addresses 100 to 200 to the frontend PCs (DHCP clients) in its subnet.

The Utility Server is not just a DHCP server, it also functions as a LAN server (file and print server) and domain controller. This means that you should not connect more than 30 frontend PCs to the RRR network directly.

If you connect more than 30 PCs to your RRR network, you may overload the Utility Server and cause problems within the RRR network.

You can use the following procedure to connect more than 30 frontends, without overloading the Utility Server.

- Direct connection to the Ready-to-Run R/3 access network.
- Set up additional workgroups. This is described in the following:

Setting Up Extra Workgroups

You can expand the Ready-to-Run R/3 network by setting up extra dedicated workgroups, each of which form a segment with a separate LAN server. This strategy lets you link far more PCs than the 30 PCs allowed when you link extra hubs to the RRR network. The RRR Utility Server of the Ready-to-Run R/3 network can be used as an example.

Ideally, you should assign a new subnet to each new workgroup. You need additional DHCP servers if you want to use dynamic assignment of IP addresses to the frontend PCs. If you set up IP routing between the subnets with a BOOTP-capable router (according to RFC 1542), then a single DHCP server can service multiple subnets. Otherwise, you have to set up a DHCP server in each subnet.

Integration into an Existing Network (TCP/IP)

Prerequisites

If you want to integrate the Ready-to-Run R/3 network into an existing network, check the following:

- Do TCP/IP networks already exist?
- What is the current IP address concept?
- Are private or registered IP addresses used?
- Can the current IP address concept be expanded?
- Do registered IP addresses exist for communication over the public network? These can be used with private, non-registered IP addresses if you have Network Address Translation (NAT).

IP Address Concept

You need to decide on one of the following general scenarios:

- **Retain the existing IP address concept**, that is, incorporate the Ready-to-Run R/3 network with its preconfigured private IP addresses as a self-contained unit, accessed using SAProuter. As of Ready-to-Run R/3 Release 4.5B you can also select IP addresses before the installation.
- **Adapt the existing IP network** to the IP address concept of Ready to Run R/3, so enabling a well-structured new network to be set up.

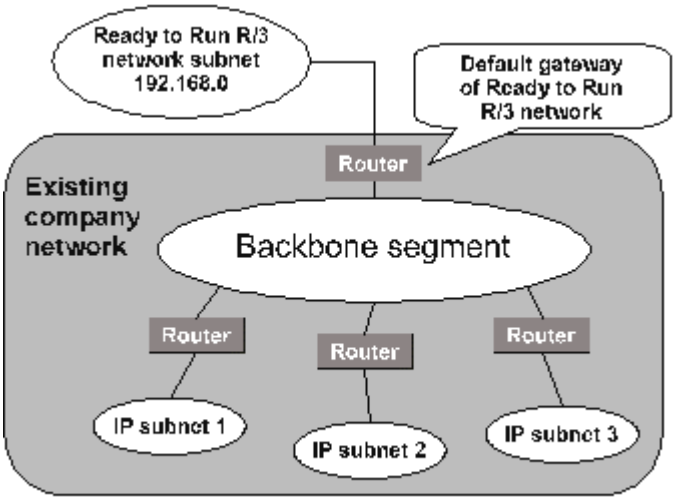
Base your decision on the existing network infrastructure and your future plans for expansion.

Integration into an Existing IP Network

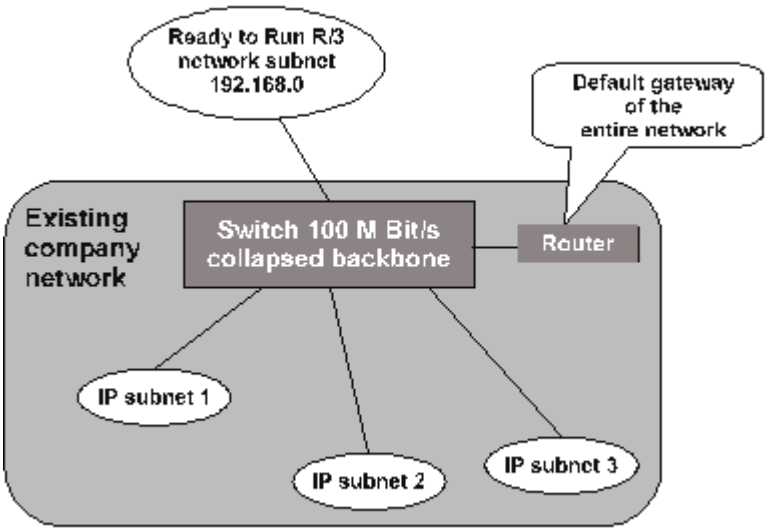
If an IP network with structured IP addresses already exists, you can integrate the Ready-to-Run R/3 network as an additional subnet without problem. You can do this by connecting the individual subnets either with a “backbone” segment or directly with a “collapsed backbone”. In both cases, you must set up IP routes for the cross-segment communication. In the simplest case, you can define a “default gateway” in the routing table of each computer.

The following graphics show you the possible strategies:

Classical Backbone Segment



Collapsed Backbone



Integration with Overlapping IP Address Ranges

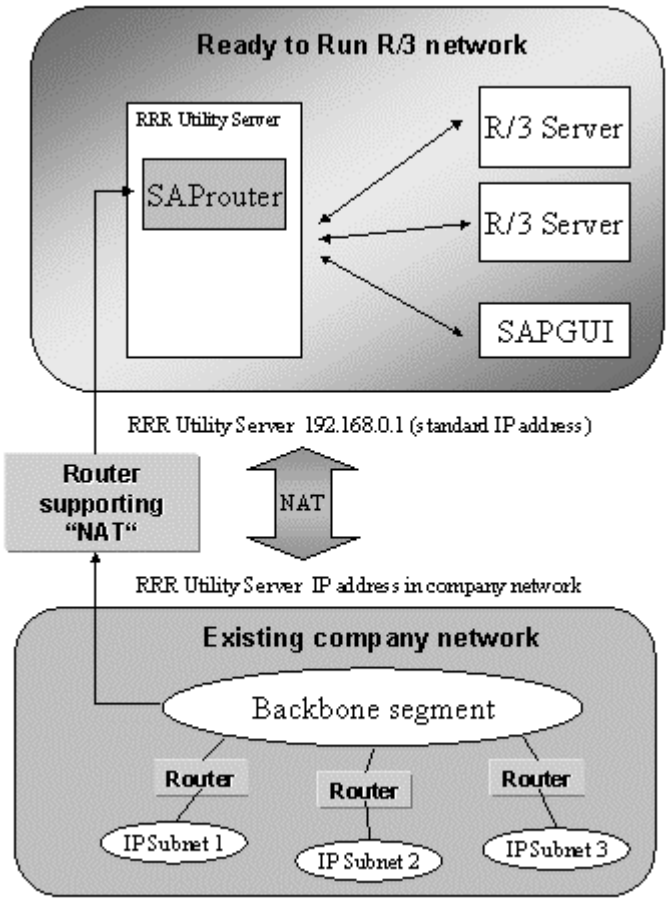
You can use the RRR Configuration Assistant to choose IP addresses other than the defaults. This is a good idea if you want to avoid duplicate IP addresses.

If you cannot avoid IP addresses that overlap with the Ready-to-Run R/3 address ranges, solve the problem as follows:

- Using a router with network address translation (NAT), map duplicate IP addresses to other unique addresses. In the simplest case, when Ready-to-Run is only accessed from the company network, it is sufficient to map the LAN server in Ready-to-Run to a single unique address. The entire data traffic to the R/3 System then passes through an application layer gateway running SAProuter, as shown in the graphic.

Integration into an Existing Network (TCP/IP)

Router with NAT for Duplicate IP Addresses



- If you require unrestricted communication between all hosts, you must use NAT to map all hosts to a unique IP address.

Integration of Two Ready-to-Run R/3 Networks

You can easily integrate multiple Ready-to-Run R/3 networks into a single company network, since you can use the RRR *Configuration Assistant* to choose IP addresses other than the default addresses. Although you can choose any IP addresses, we recommend that you only choose another subnet from the address range 192.168.0 to 192.168.254, and then use static IP address assignment to determine the individual IP addresses (see IP Address Concept [Seite 204]).

Integration of Existing LAN Servers

Each Ready-to-Run System comes with a LAN server, the Utility Server, that performs various functions:

- Domain Controller

- DHCP server
- WINS server
- Print server
- File server

To avoid overloading the RRR utility server, it should only be used by PCs directly attached to the RRR network.

Frontend PCs in the Company Network

If extra PCs in the company network need to access the Ready-to-Run R/3 System, you must meet the following requirements:

- A TCP/IP connection exists between the Ready-to-Run servers.
- The directory `SAPINFO` is accessible. This directory must be replicated on the LAN servers in the company network to prevent the Utility Server of the RRR System from being overloaded.

LAN Printers in the Company Network

There are several ways of addressing LAN printers in the company network from the Ready-to-Run R/3 System:

- TCP/IP with **Berkeley lpd**
- **SAPlpd** program
- Network utilities in the PC network, such as NetBIOS or Novell. Trusted relationships must be defined between the domains for NetBIOS and corresponding gateways must be set up on the RRR Utility Server for Novell.

Using the IP Address Concept of Ready-to-Run R/3

The address concept of Ready-to-Run R/3 is based on private IP addresses (RFC 1918). Class C addresses 192.168 with 255 possible subnets from 192.168.0.0 to 192.168.254.0 have been defined. You can assign the free subnets in this addressing schema to existing subnets, following the same principles.

An addressing scheme has been laid down for the host addresses (host-IDs) in Ready-to-Run R/3 (see IP Address Concept [Seite 204]). You can use this schema for additional subnets. An addressing schema of this type is the basis for clear and structured IP networks and simplifies the configuration of the LAN server with DHCP.

The Utility Server – simultaneously functioning as a DHCP and WINS server – is a central element in the Ready-to-Run R/3 network. You can use the Utility server as a model for setting up additional workgroups. Adapt any existing workgroups accordingly. For more information, see Connecting Extra Frontend PCs (TCP/IP) [Seite 209].

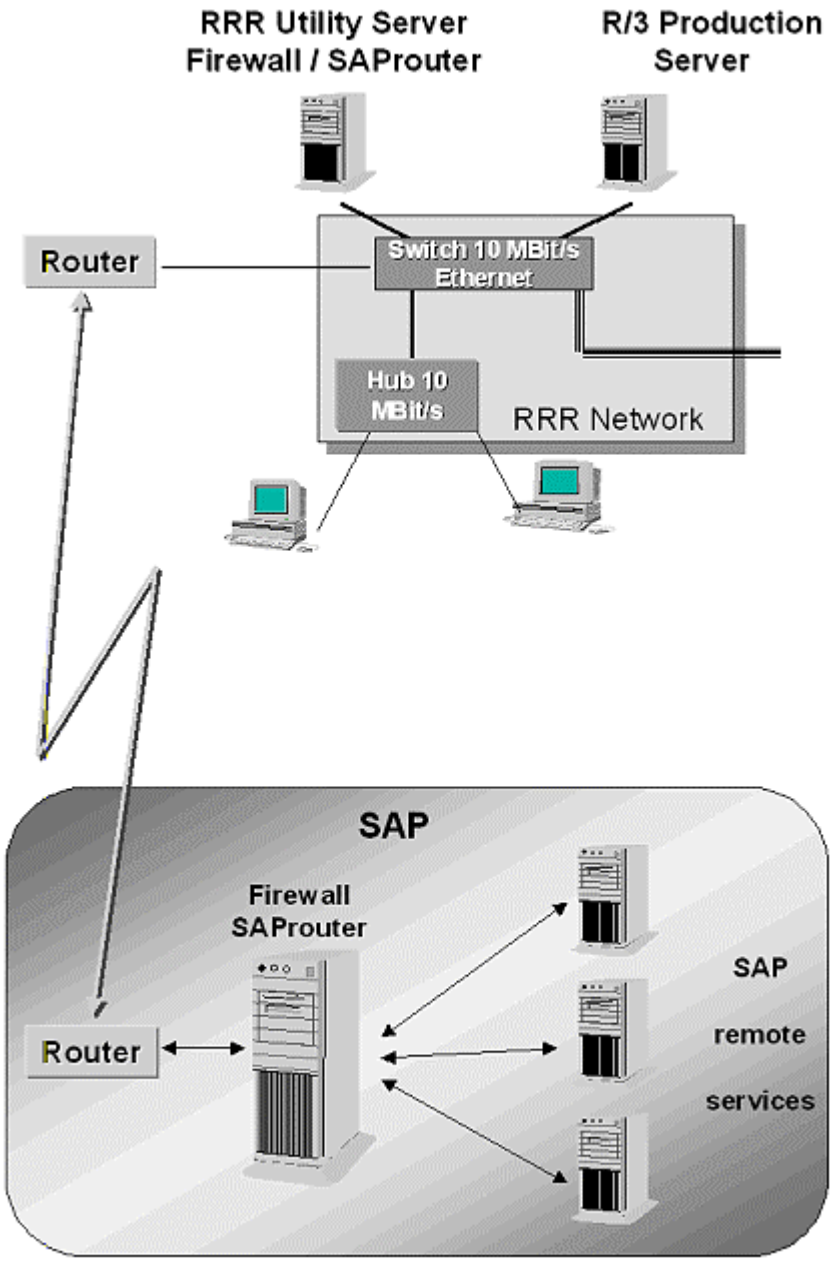
Remote Service

Ready-to-Run contains a service and equipment package for establishing a remote service connection between your SAP Systems and the SAP service organization. This package covers routing hardware and software, and the necessary services for establishing a remote service connection.

Remote Service Configuration

The TCP/IP connection between your systems and SAP is controlled by the router included in the Remote Access Package. One of the main functions of this router is the assignment of private addresses to official external IP addresses delivered with your Remote Access Package.

The following graphic shows a typical Remote Service configuration:



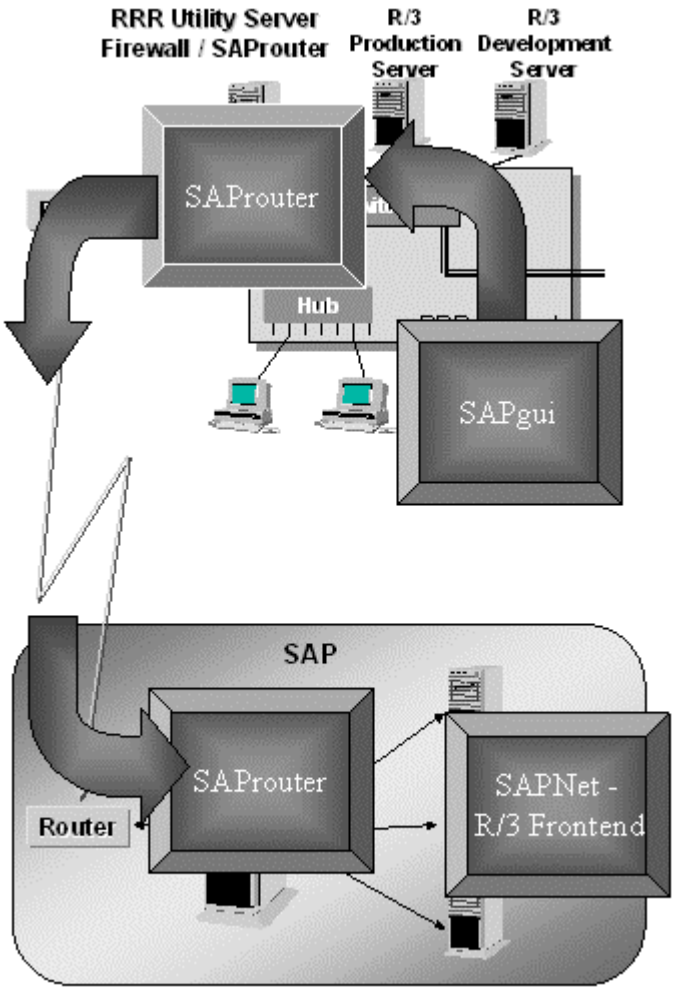
SAProuter with Remote Connections

SAP recommends that you use the SAProuter software to set up remote connections between SAP System components, for example, between SAPGUI and the R/3 application server.

SAProuter enables access to remote SAP systems because remote systems do not have IP addresses that are locally recognized. By defining SAProuter strings, the remote SAP systems can be addressed using intermediate nodes with SAProuter.

In addition, you can specify in the table of permissions on each SAProuter whether connections between two systems are allowed or not. Locate the SAProuter directly at the entry or exit point to the public network.

The following diagram shows a typical connection between two SAP systems, using the recommended SAProuter connection:



Remote Access Components

Use

This section describes the following aspects of your remote access components:

- Selection and delivery of communication hardware
- Provision of IP addresses
- Setting of connection parameters and router configuration
- Connection test

Selection and Delivery of Communication Hardware

SAP recommends you to use dedicated hardware routers, since this guarantees higher availability, security, and universality than solutions using interface or software approaches. In the network package for Ready to Run, SAP delivers a router with the following characteristics:

- TCP/IP routing
- LAN interface for Ethernet (RJ-45)
- WAN interface for ISDN, X.25, or Frame relay

  The router provides the necessary WAN interfaces for your chosen connection method to SAP.
- System boot and configuration using flash ROM or download

  The router has its own operating system and storage areas. Therefore, it can reboot independently and continue operating after a power failure.
- Remote configuration

  You can configure the router using `telnet` or a modem connected to the console port.
- Intelligent line management

  The router contains an inactivity timer to control the line to SAP. You can adjust the timer to physically bring the line down if no data has been set to SAP for a certain period of time (the default is 5 minutes). The line is re-established when required.
- Comprehensive debugging functions for state and error analysis
- Extension of functions using software upgrade

  With a simple software upgrade, you can add new functions, for example, support for RMON or additional protocols.
- Access lists for setting up packet filters

  This enables you to precisely specify, who can communicate with who.
- Address translation (NAT/PAT)

  The router can translate private IP addresses into official IP addresses. This translation can occur statically or dynamically. According to the type of router, network address translation (NAT) or port address translation (PAT) is used.

Providing IP Addresses

The communication with TCP/IP assumes the unique identification of each participating system using a unique IP address. Due to the large number of local networks and complexity of worldwide SAP support network, you may only official IP addresses.

You receive official IP addresses for your specified systems with the remote access components. These addresses are supported by the address configuration on the SAProuter system. With the remote access components, you have a complete ready-to-use service.

When you use a SAProuters, the node addresses for the router and network card, through which the SAProuter is externally accessed, must be official IP addresses.

Setting of Connection Parameters and Router Configuration

The router is fully preconfigured. All connection parameters are already set for you.

Connection Test

After the successful completion of the configuration tasks, your remote connection to SAP is fully tested for correct functioning. This includes:

- Setting up the SAPNet - R/3 Frontend connection and system access for your authorized user IDs (see also: Logging On to the SAPNet - R/3 Frontend [Seite 144])
- Access to remote support and Early Watch (see also: Opening a Remote Service Connection [Seite 159] and Scheduling an EarlyWatch Session [Seite 162])
- Access to Support Packages [Seite 150]

  This tests that the RFC communication is correctly installed and can be switched on.

Domain Concept

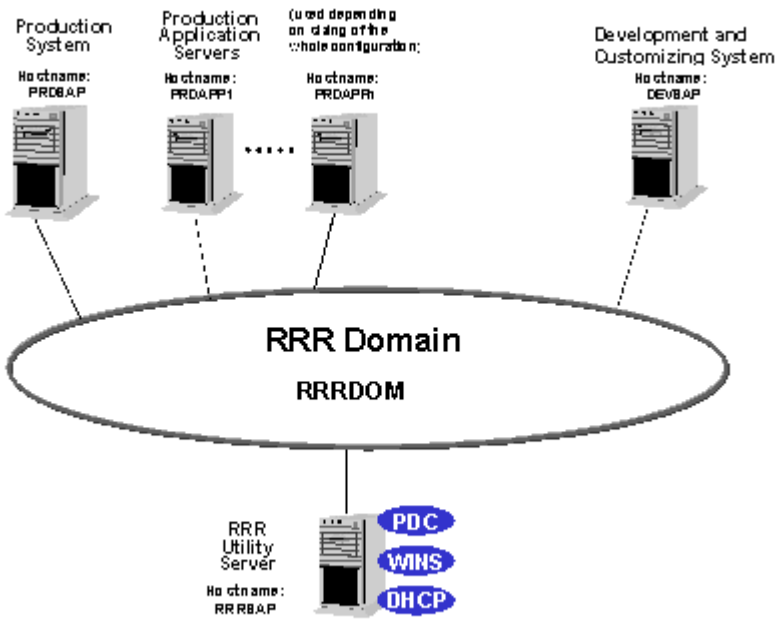
Ready-to-Run R/3 is implemented as a single domain model. RRRDOM contains all the servers of the R/3 Systems and the utility server.

In the single domain model, the Windows NT directory services permit the “one user, one account“ concept. All the accounts and resources are combined in one administrative unit. Each user that has logged on once can access each resource for which he or she has the correct authorization. Administrators can manage each resource within the domain. This permits central administration of accounts and resources

As well as the normal Windows NT administrator, the domain RRRDOM also contains some pre-configured global accounts for administration use, pre-configured global R/3 administrators and global R/3 service accounts for the production system and the development and Customizing system. This reduces the amount of administration, since you do not need to create a new user account or group account each time extra application servers are added to the domain.

The domain RRRDOM contains all the system information of the R/3 server as well as the utility server. All R/3 servers are connected as standalone servers in the domain. The RRR utility server is used as the Primary Domain Controller (PDC) of the domain.

Domain Concept for Ready-to-Run R/3



The given domains and host names are standard names and can be changed as required.

Users and Groups in the Domain RRRDOM

The domain RRRDOM contains all the servers of the R/3 production system <PRD> and the R/3 development and test system <DEV> (single domain). The domain accounts for the R/3 Systems are administered in RRRDOM. These user accounts are global accounts and can be used throughout the entire domain.

The following table shows the users, groups and passwords in domain RRRDOM:

User name	Group	Description	Password
Administrator	Administrators Domain administrators Domain users	Standard administrator in Windows NT	sap
BackupAdmin	Backup operators Domain users	Administrator for backups	backup
<PRD>adm	SAP_<PRD>_GlobalAdmin Domain users	R/3 administrator of the production system	pass
<DEV>adm	SAP_<DEV>_GlobalAdmin Domain users	R/3 administrator of the development and test system	pass
SAPService<PRD>	SAP_<PRD>_GlobalAdmin Administrators	R/3 utility account of the production system	pass
SAPService<DEV>	SAP_<DEV>_GlobalAdmin Administrators	R/3 utility account of the development and test system	pass
Saprouter	Domain users	Service account for the SAProuter	pass
SAPanywhere	Domain administrators Domain users	User for starting pcAnywhere	pass

The R/3 administrators <PRD>adm and <DEV>adm must be members of the administrators group during the installation of the R/3 System.

Depending on the database used with the R/3 System, some local user accounts are created during installation of the database. The following table shows the database-specific user accounts for each database in the domain RRRDOM:

Database-specific user name	Group	Description
MS SQL Server		
-		
Informix		
aao	ix_aao	Audit administrator online

dbsso	ix_dbsso	Backup administrator online
informix	Administrators Informix administrators	Informix user account
sapr3	Administrators Domain users ix_users	
Oracle		
–		
DB2		
sapr3	SAP_<PRD>_LocalAdmin SAP_<DEV>_LocalAdmin	All the database objects in databases <PRD> and <DEV> belong to this user. No interactive user account
db2<PRD>	SAP_<PRD>_LocalAdmin SYSADM Administrators	Database administrator for <PRD>
db2<DEV>	SAP_<DEV>_LocalAdmin SYSADM Administrators	Database administrator for <DEV>
db2admin	SAP_<PRD>_LocalAdmin SAP_<DEV>_LocalAdmin	User for remote administration of the databases <PRD> and ADM<PRD>
sapse<PRD>	SAP_<PRD>_GlobalAdmin SYSCTRLP Administrators	Corresponds to user SAPService<PRD>
sapse<DEV>	SAP_<DEV>_GlobalAdmin SYSCTRLT Administrators	Corresponds to user SAPService<DEV>

Additional User Groups

In addition to the standard user groups that are automatically created during installation of Windows NT, the Ready-to-Run-R/3 System domain contains the following additional user groups that contain the R/3 administrators:

Local Groups:

SAP_<PRD>_LocalAdmin

SAP_<DEV>_LocalAdmin

Global Groups:

SAP_<PRD>_GlobalAdmin

SAP_<DEV>_GlobalAdmin

Users and Groups in the Domain RRRDOM

The SAP administrators for the development and test system <DEV>, which is installed as the central instance, are members of the global group SAP_<DEV>_GlobalAdmin.

Multiple application servers can be used for the production system <PRD>. The <PRD>-system must therefore be considered as a distributed installation. All the SAP administrators of the distributed system belong to the global group SAP_<PRD>_GlobalAdmin. The global group itself belongs to the local group SAP_<PRD>_LocalAdmin of each additional application server.

This simplifies administration in the client/server environment since new users who are to be given SAP administrator authorization need only be added to the global group.

The following table shows the groups in the domain RRRDOM:

Group name	User	Sub-groups	Remarks
Account operators	–	–	Member can administer domain user and group accounts (Standard in WinNT)
Administrators	Administrator SAPService<PRD> SAPService<DEV> <PRD>adm <DEV>adm Databases: sapr3 (Informix) db2<PRD> (DB2) db2<DEV> (DB2)	Domain administrators	Members can entirely administer the host or the domain (Standard in WinNT)
Backup operators	BackupAdmin	–	Members can avoid file authorizations in order to backup files. (Standard in WinNT)
Domain administrators	Administrator SAP Anywhere	–	Selected administrators of the domain (Standard in WinNT)

Domain guests	–	Guests	All domain guests (Standard in WinNT)
Domain users	Administrator BackupAdmin <PRD>adm <DEV>adm SAPanywhere Databases: SQLExecutiveCmdExec (SQL) aao (Informix) dbsso (Informix) informix (Informix) db2<PRD> (DB2) db2<DEV> (DB2) sapse<PRD> (DB2) sapse<DEV> (DB2)	–	All domain users (Standard in WinNT)
Guests	–	Domain guests	Users can log onto the host or domain as guest (Standard in WinNT)
Print operators	–	–	Members can administrate domain printers (Standard in WinNT)
Reproduction operators	–	–	Supports file reproduction in the domain (Standard in WinNT)
SAP_<PRD>_Global Admin	<PRD>adm SAPService<PRD> Database: sapse<PRD> (DB2)	–	Contains all R/3 administrators of the Ready-to-Run-R/3 production system
SAP_<PRD>_Local Admin	– Database: sapr3 (DB2) db2<PRD> (DB2) db2admin (DB2)	SAP_<PRD>_Global Admin	The group may only contain SAP_<PRD>_Global Admin

Users and Groups in the Domain RRRDOM

SAP_<DEV>_Global Admin	<DEV>adm SAPService<DEV> Database: sapse<DEV> (DB2)	–	Contains all R/3 administrators of the Ready-to-Run-R/3 development and test system
SAP_<DEV>_Local Admin	– Database: sapr3 (DB2) db2<DEV> (DB2) db2admin (DB2)	SAP_<DEV>_Global Admin	Group may only contain SAP_<PRD>_Global Admin
Power users	Sapse<PRD> (DB2) Sapse<DEV> (DB2) db2<PRD> (DB2) db2<DEV> (DB2)		
Server operators	–	–	Member can administer domain server (Standard in WinNT)
Users	–	Domain user SAP_<PRD>_Global Admin SAP_<DEV>_Global Admin	Normal user (Standard in WinNT)

Depending on the database used with the R/3 System, some local groups are created when the database is installed. The following table shows the database-specific local groups for each database:

Database-specific group	**User**	**Sub-groups**	**Remarks**
MS SQL Server			
–			
Informix			
ix_aao	aao	–	Checks the database logs
ix_dbsso	dbsso	–	Database backup operators
Informix_Admins	informix	–	Database administration users

ix_users	sapr3	–	Database users
Oracle			
–			
DB2			
SYSADM	db2<PRD> db2<DEV>	–	Database system administrators of database <PRD> and <DEV>
SYSCTRL	<PRD>adm< <DEV>adm sapse<PRD> sapse<DEV>	–	Database-sysctrl-users of database <PRD> and <DEV>

AS/400

Your AS/400 System Environment

Network Concepts for Ready-to-Run R/3

The Ready-to-Run R/3 solution contains the network to connect the R/3 server, the LAN server (DEVSAP system), and the first frontend PC. It enables access to the SAPNet - R/3 Frontend. An optimally functioning network is vital for the smooth running of the R/3 System.

It is possible with the supplied network components to build an independent network and to immediately start preliminary work with a few frontend PCs. For production operation with additional users, additional frontend PCs are required. These are a number of alternative methods for attaching additional PCs to the network. These are described in greater detail in this documentation. You can:

- Expand the Ready-to-Run R/3 network
- Integrate existing networks (for example, PC workgroups) into the Ready-to-Run R/3 network
- Integrate the Ready-to-Run R/3 network into an existing company network

The Ready-to-Run R/3 package enables you to start development operations with your R/3 System immediately. However, it is **essential** that you receive expert advice tailored to your individual requirements when planning your network for production. Only a well-designed network can guarantee correct R/3 System operation.

See also:

Physical Network [Extern]

TCP/IP Protocol Layer [Extern]

Remote Service [Extern]

Domain Concept [Extern]

Configuration Reference

The Configuration Reference contains all important technical data for your Ready-to-Run R/3 System. The Configuration Reference is particularly important when you have hardware or software problems, since it contains basic information for analyzing and correcting these problems.

The System Administration Assistant gives you access to the non-modifiable SAP Configuration Reference [Seite 232] (Ready-to-Run R/3 as it is delivered) and to your own modifiable Customer-Specific Configuration Reference [Seite 233].

You must record all changes that you make to your Ready-to-Run R/3 hardware, the system software and the Basis Customizing of your R/3 System in the Customer-Specific Configuration Reference.

Displaying the SAP Configuration Reference

To display the SAP *Configuration Reference*, in the System Administration Assistant, choose  . This document contains the specifications of your Ready-to-Run system at delivery.

You cannot edit this document.

Maintaining the Customer-Specific Configuration Reference

The Customer-Specific Configuration Reference is stored on the Utility Server (RRRSAP). This is also where you maintain it.

1. In the System Administration Assistant, choose  to display and edit your own Configuration Reference.
2. Enter all changes that you make to the following components:

- Hardware
- Operating system
- R/3 Basis Customizing
- Passwords

The document Customer Configuration Reference contains a macro that you can use to replace general variables, such as the system ID, host name and so on, with your company-specific data. Click the field *Click here to update information* on the title page of the document to enter your data.