Package service

```
import "github.com/jzipfler/HTW-SwArchitektur/service"
```

Overview ▾

Package service provides functions and types to create and manage services in a LAN network. It also offers functions to query information about running services. The service discovery is done via a central service called "Registry", which itself is discovered via multicast. This means is it not necessary to configure static address information.

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service.go

Variables

```
var (
    // Multicast address for resolution of the registry address.
    MULTICAT_ADDR = &net.UDPAddr{IP: net.ParseIP("224.0.0.1"), Port: 32001}
    // Used to send multicast messages to own address.
    MULTICAT_SELF_ADDR = &net.UDPAddr{IP: net.ParseIP("127.0.0.1"), Port: 32001}
    // Any UDP address.
    UDP_ANY_ADDR = &net.UDPAddr{IP: net.ParseIP("0.0.0.0"), Port: 0}
    // Any TCP address.
    TCP_ANY_ADDR = &net.TCPAddr{IP: net.ParseIP("0.0.0.0"), Port: 0}
    // UDP protocol to use (any of: "udp", "udp4", "udp6").
    UDP_PROTOCOL = "udp4"
    // TCP protocol to use (any of: "tcp", "tcp4", "tcp6")
    TCP_PROTOCOL = "tcp4"
    // Maximum packet/buffer size for send/receive calls.
    PACKET_SIZE = 0x10000
    // Operation for LookupInfoRequest: get service address.
    OPERATION_ADDRESS = "address"
    // Operation for LookupInfoRequest: get service info.
    OPERATION_INFO = "info"
    // Operation for LookupInfoRequest: get service list.
    OPERATION_LIST = "list"
)
```

func CallService

```
func CallService(name string, args ...string) (string, error)
```

Invokes the service specified by name with the given arguments.

func GetRegistryAddress

```
func GetRegistryAddress() (*net.TCPAddr, error)
```

Returns the address of any registry which is currently active.

func GetRegistryAddressFromInterface

```
func GetRegistryAddressFromInterface(intf net.Interface, localhost bool, ch chan *net.TCPAddr)
```

Returns the address of any registry which is currently active on the given interface or localhost.

func GetServiceAddress

```
func GetServiceAddress(name string) (*net.TCPAddr, error)
```

Returns the address for the given service name.

func GetServiceData

```
func GetServiceData(operation, name string) ([]byte, error)
```

Get service information for the given operation as JOSN. Valid operations are: * "address" * "info" * "list"

func GetServiceList

```
func GetServiceList() (*map[string]ServiceInfoAddress, error)
```

Returns a map (map[string]ServiceInfoAddress) containing all services.

func RunRegistryServer

```
func RunRegistryServer() error
```

Starts a registry server on "0.0.0.0" alias any address. Note that this function blocks forever.

func RunService

```
func RunService(serviceinfo *ServiceInfo, handler ServiceHandler) error
```

Registers and starts a service. Any requests to the service are given to the user defined handler. Note that this function blocks forever.

type ArgumentInfo

```
type ArgumentInfo struct {
    Name        string
    Type        string
    Description string
}
```

Information about service argument/parameter.

type LookupAddressResponse

```
type LookupAddressResponse struct {
    Address net.TCPAddr
}
```

Response to a service address lookup request (holds service address).

type LookupInfoRequest

```
type LookupInfoRequest struct {
    Operation   string
    ServiceName string
}
```

Service information lookup request. This is used to query information about a service. Valid values are "address" (which returns the network address of the given service name, "info" (which returns information about the given service name and "list" (which returns a map (name to info) containing all available services.

type ServiceCall

```
type ServiceCall struct {
    Name      string
    Arguments []string
}
```

Call parameter for a service. This structure is sent to a service when it's invoked.

type ServiceHandler

```
type ServiceHandler func(*ServiceCall) string
```

Definition of the Service handler function, which will be invoked when the service is being called.

type ServiceInfo

```
type ServiceInfo struct {
    Name        string
    ResultType  string
    Description string
    Arguments   []ArgumentInfo
}
```

Information about a service.

type ServiceInfoAddress

```
type ServiceInfoAddress struct {
    Address string
    Info    ServiceInfo
}
```

Information about service that belongs to a specific address.

func GetServiceInfo

```
func GetServiceInfo(name string) (*ServiceInfoAddress, error)
```

Returns ServiceInfoAddress for the given service name.

type ServiceResult

```
type ServiceResult struct {
    Result string
}
```

Return value of a service. This structure is sent upon return of a service.