# MES接口协议

## 通信方式

本协议采用ActiveMQ开源消息总线作为传输平台，双方信息传输前需约定协议格式，协议格式的制定由集成框架负责。

## 协议格式

ActiveMQ提供了多种消息类型，本协议采用TextMessage(文本消息)传输数据。协议采用json格式，体积更小、更容易解析。信息发送前要填写信息类型，信息的数据部分为对应协议的各个字段。信息解析时，先检查信息的类型，若信息类型错误，则直接丢弃。协议中也包含了sha1算法加密后的标志位，用于检验数据传输后结果是否一致。

协议分为两种类型，一种用于传输基本数据，第二种用于请求应答回复。

1. 发送方协议如下：

{

"FC": "09005",

"REVICER": "ifms.000001",

"SENDER": "dispatcher.BS00000268",

"UUID": "ba986931-64da-4fa8-a934-566b2accc097",

"DATA": {

"id": "0001",

"name": "产品A",

"stock": 20,

"unit": "块",

"model": "GJB9001"

}

}

1. 应答消息格式如下：

{

"DATA": {

"result": "OK",

"type": "1"

},

"FC": "09005",

"REVICER": "dispatch.CS00000208",

"SENDER": "dispatcher.BS00000268",

"UUID": " ba986931-64da-4fa8-a934-566b2accc097"

}

## 约定

集成框架与MES在某些字段含义上存在着不同的定义，此文档的协议内容建立在双方以下的约定基础上：

1. 集成框架中工组对应MES大工作中心；
2. 集成框架中资源对应MES工位(人机协作平台、智能装配平台)、设备(AGV、机器人)。
3. 集成框架中的工艺对应作业路线；
4. 集成框架自主维护班次；
5. 集成框架中的物料编码与MES保持一致；

## 需MES提供接口

### 产品信息(product)- RG\_Product

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 | 2017-07-21 | 对接联调人 | 万工 |

|  |  |  |  |
| --- | --- | --- | --- |
| 字段名 | 类 型 | 描 述 | Mes字段描述 |
| id | VarChar2(100) | 主键，产品编码 |  |
| name | VarChar2(255) | 产品名称 |  |
| stock | Number(20) | 产品库存量 |  |
| unit | Varchar(20) | 计量单位（个、件、块…） |  |
| model | Varchar(100) | 规格型号 |  |

#### 信息样本：

{

"DATA": {

"id": "8000X8000",

"name": "仪器舱",

"stock": 0,

"unit": "PCS",

"model": "成品"

},

"FC": "product",

"REVICER": "he",

"SENDER": "ifms.000001",

"UUID": "b9804108-6860-45d4-a577-8d724acc7c6a"

}

### 资源信息（resource）-RG\_Resource

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 字段名 | 类 型 | 描 述 | Mes字段描述 |
| id | VarChar2(100) | 主键，资源编码 |  |
| name | VarChar2(255) | 资源名称 |  |
| manufacturer | VarChar2(255) | 资源厂商 |  |
| IdSite | VarChar2(20) | 该资源可以移动到的地点集合 |  |
| mobility | Number(8) | 资源可移动性。单位：米/秒。0表示不可移动 |  |
| capacity | Number(8) | 资源可容纳的托盘量  （如AGV 一次只能容纳一个托盘，则为1； 智能装配平台同时最多容纳3个托盘，则为3） |  |

#### 信息样本：

{

"DATA": {

"id": "SB0000086494",

"name": "人机协作中心",

"manufacturer": "舜宇",

"IdSite": "",

"mobility": "0"

},

"FC": "resource",

"REVICER": "he",

"SENDER": "ifms.000001",

"UUID": "b9804108-6860-45d4-a577-8d724acc7c6a"

}

### 地点信息（site）-RG\_Site

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 | 2017-08-02 | 对接联调人 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 字段名 | 类 型 | 描 述 | MES字段描述 |
| id | VarChar2(20) | 主键，地点编码 |  |
| name | VarChar2(100) | 地点名称 |  |
| x | Number(16) | 地点x坐标【结果显示】 |  |
| y | Number(16) | 地点y坐标【结果显示】 |  |
| capacity | Number(4) | 地点可停放最大资源数，0表示可停放资源数不受限制，大于0表示可停放最大资源数 |  |

注：以工厂布局左下角为坐标原点，x,y是site的坐标点，capacity为1表示该地点最多可停放一个资源。地点包括AGV及机器人所有可能停靠的位置，以及生产平台的静态资源（人机协作平台、线边仓、智能装配平台等）的位置。

#### 信息样本：

{

"DATA": [

{

"name": "AGV输入标志点",

"x": 0,

"y": 0,

"id": "LC00002799",

"capacity": 1

},

{

"name": "AGV输出标志点",

"x": 0,

"y": 0,

"id": "LC00002800",

"capacity": 1

},

{

"name": "线边仓标志点1-1",

"x": 5,

"y": 6,

"id": "LC00002801",

"capacity": 1

},

{

"name": "智能装配标志点1\_1",

"x": 0,

"y": 0,

"id": "LC00002802",

"capacity": 1

},

{

"name": "人机协作标志点1\_1",

"x": 0,

"y": 0,

"id": "LC00002805",

"capacity": 1

},

{

"name": "线边仓标志点1-2",

"x": 0,

"y": 0,

"id": "LC00002811",

"capacity": 1

},

{

"name": "线边仓标志点1-3",

"x": 0,

"y": 0,

"id": "LC00002812",

"capacity": 1

},

{

"name": "智能装配标志点1\_2",

"x": 0,

"y": 0,

"id": "LC00002813",

"capacity": 1

},

{

"name": "智能装配标志点1\_3",

"x": 0,

"y": 0,

"id": "LC00002814",

"capacity": 1

},

{

"name": "喷码开始标志点",

"x": 0,

"y": 0,

"id": "LC00002815",

"capacity": 1

},

{

"name": "尺寸精度标志点",

"x": 0,

"y": 0,

"id": "LC00002819",

"capacity": 1

},

{

"name": "在线模态标志点",

"x": 0,

"y": 0,

"id": "LC00002820",

"capacity": 1

},

{

"name": "KUKA执行头标志点",

"x": 0,

"y": 0,

"id": "LC00002821",

"capacity": 1

},

{

"name": "人机协作标志点1\_2",

"x": 0,

"y": 0,

"id": "LC00002822",

"capacity": 1

},

{

"name": "线边仓标志点1-4-1",

"x": 0,

"y": 0,

"id": "LC00002823",

"capacity": 1

},

{

"name": "线边仓标志点1-4-2",

"x": 0,

"y": 0,

"id": "LC00002824",

"capacity": 1

},

{

"name": "线边仓标志点1-4-3",

"x": 0,

"y": 0,

"id": "LC00002825",

"capacity": 1

},

{

"name": "喷码舱标志点",

"x": 0,

"y": 0,

"id": "LC00002826",

"capacity": 1

},

{

"name": "在线模态检测设备",

"x": 0.2,

"y": 0.5,

"id": "G00000359",

"capacity": 1

},

{

"name": "尺寸精度检测设备",

"x": 10,

"y": 20,

"id": "G00000360",

"capacity": 1

},

{

"name": "喷码机",

"x": 0.1,

"y": 0.2,

"id": "G00000364",

"capacity": 1

},

{

"name": "人机协作工位",

"x": 100,

"y": 12,

"id": "G00000362",

"capacity": 1

},

{

"name": "智能装配工位",

"x": 11,

"y": 12,

"id": "G00000363",

"capacity": 1

}

],

"FC": "site",

"REVICER": "hang2",

"SENDER": "dispatcher.BS00000260",

"UUID": "c819fb7a-8047-4d35-8778-e817aaa6d431"

}

### 地点-地点距离信息（site-Distance）-RG\_Distance

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 字段名 | 类 型 | 描 述 | MES字段描述 |
| idSite1 | VarChar2(20) | 地点1的编码 |  |
| idSite2 | VarChar2(20) | 地点2的编码 |  |
| distance | Number(16) | 地点1到地点2的距离，单位：米 |  |

#### 信息样本：

{

"DATA": [

{

"distance": 0,

"idSite2": "LC00002800",

"idSite1": "LC00002799"

},

{

"distance": 7.8102,

"idSite2": "LC00002801",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002802",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002805",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002811",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002812",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002799"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002799"

},

{

"distance": 7.8102,

"idSite2": "LC00002801",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002802",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002805",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002811",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002812",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002800"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002800"

},

{

"distance": 7.8102,

"idSite2": "LC00002802",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002805",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002811",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002812",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002813",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002814",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002815",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002819",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002820",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002821",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002822",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002823",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002824",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002825",

"idSite1": "LC00002801"

},

{

"distance": 7.8102,

"idSite2": "LC00002826",

"idSite1": "LC00002801"

},

{

"distance": 0,

"idSite2": "LC00002805",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002811",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002812",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002802"

},

{

"distance": 0,

"idSite2": "LC00002811",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002812",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002805"

},

{

"distance": 0,

"idSite2": "LC00002812",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002811"

},

{

"distance": 0,

"idSite2": "LC00002813",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002812"

},

{

"distance": 0,

"idSite2": "LC00002814",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002813"

},

{

"distance": 0,

"idSite2": "LC00002815",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002814"

},

{

"distance": 0,

"idSite2": "LC00002819",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002815"

},

{

"distance": 0,

"idSite2": "LC00002820",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002819"

},

{

"distance": 0,

"idSite2": "LC00002821",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002820"

},

{

"distance": 0,

"idSite2": "LC00002822",

"idSite1": "LC00002821"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002821"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002821"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002821"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002821"

},

{

"distance": 0,

"idSite2": "LC00002823",

"idSite1": "LC00002822"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002822"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002822"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002822"

},

{

"distance": 0,

"idSite2": "LC00002824",

"idSite1": "LC00002823"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002823"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002823"

},

{

"distance": 0,

"idSite2": "LC00002825",

"idSite1": "LC00002824"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002824"

},

{

"distance": 0,

"idSite2": "LC00002826",

"idSite1": "LC00002825"

}

],

"FC": "siteDistance",

"REVICER": "hang2",

"SENDER": "dispatcher.BS00000260",

"UUID": "fa4c3563-0610-418d-a5a0-f25afc48b125"

}

### 工艺信息（process）

#### 接口定义：

#### 信息样本：

### 监控信息（realData）- RG\_DeportInfo、RG\_CarryInfo、RG\_AgvInfo、RG\_AssemblyCarryInfo、RG\_AssemblyCenterInfo

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| 信 源 | MES | 信 宿 | 集成框架 |
| 调用周期 | 10s/次 |  | |
| MES对应表 |  | MES对应模块 |  | |
| 联调时间 |  | 对接联调人 |  | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 字段名 | 类 型 | 描 述 | 属 性 | Mes字段描述 |
| type | VarChar2(100) | 消息类型， | 共有属性 |  |
| id | VarChar2(100) | 对应消息类型的编号 | 共有属性 |  |
| name | VarChar2(255) | 货架中存储的货物名称 | DeportInfo |  |
| stock | Number(8) | 数量 |  |
| totalPlace | Number(8) | 总存储位 |  |
| freePlace | Number(8) | 剩余存储位 |  |
| productId | VarChar2(255) | 货物编号 |  |
| state | bool | 正常/不正常 | CarryInfo、AgvInfo、AssemblyCarryInfo、AssemblyCenterInfo |  |
| jobDesc | VarChar2(255) | 正在执行的搬运/装配工作或运送物料信息 |  |
| idOrder | VarChar2(100) | 订单编号 |  |
| remainPower | float | 剩余电量(百分比) | AgvInfo |  |

#### 信息样本：

{

"DATA": {

"data": {

"id": "Agv000003",

"state": "true",

"goodsDesc": "3601X9105",

"idOrder": "PS00000080",

"remainPower": "50",

"jobDesc": "111"

},

"type": "agvInfo"

},

"FC": "realData",

"REVICER": "hang2",

"SENDER": "dispatcher.BS00000268",

"UUID": "b4695e17-11ae-4383-baf9-9c15e604d6b5"

}

### 设备状态信息（deviceStateInfo）-RG\_ResourceState

#### 接口定义：

监控信息包含立体仓库信息(DeportInfo)、仓库搬运机器人信息(CarryInfo)、AGV信息(AgvInfo)、装配线搬运机器人信息(AssemblyCarryInfo)、智能装配中心信息（AssemblyCenterInfo），人机协作(manMachineInfo)、精度检测(degreeAccuracyInfo)、模态检测(modelTestInfo)、电性能检测(electricityInfo)

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 适用场景 | MES反馈对应设备当前的状态信息。 | | | | |
| 调用周期 | MES主动推送 | | | | |
| 信 源 | MES | | 信 宿 | | 集成框架 |
| **字段说明** | | | | | |
| 字段名 | 类 型 | 描 述 | | Mes字段描述 | |
| Id | VarChar(100) | 设备编码 | |  | |
| resourceName | VarChar (255) | 设备名称 | |  | |
| Manufacturer | Varchar(100) | 设备厂商 | |  | |
| idTask | Varchar2(60) | 任务编号 | |  | |
| idProcess | Varchar2(60) | 工序编号 | |  | |
| idProduct | Varchar(100) | 零件编号 | |  | |
| productName | VarChar2(255) | 零件名称 | |  | |
| t1PlanTask | VarChar2(20) | 计划开工时间 | |  | |
| t2PlanTask | VarChar2(20) | 计划完工时间 | |  | |
| t1RealTask | VarChar2(20) | 工序实际开工时间 | |  | |
| t2RealTask | VarChar2(20) | 工序实际完工时间 | |  | |
| state | Number(1) | 状态(运行/维护) | |  | |

#### 信息样本：

{

"DATA": {

"id": "SB0000086494",

"idTask": "PCDJ-6434918",

"idProcess": "4100-001",

"idProduct": "8000X8000",

"t1PlanTask": "",

"t2PlanTask": "",

"t1RealTask": "2017-09-21 11:12:45",

"t2RealTask": "2017-09-21 11:12:45",

"state": "0"

},

"FC": "deviceStateInfo",

"REVICER": "he",

"SENDER": "ifms.000001",

"UUID": "b9804108-6860-45d4-a577-8d724acc7c6a"

}

### 订单执行状态信息（orderStateInfo）- RG\_OrderState

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 适用场景 | MES反馈对应订单当前的状态信息。 | | |
| 调用周期 | MES主动推送 | | |
| 信 源 | MES | 信 宿 | 集成框架 |
| **字段说明** | | | |
| 字段名 | 类 型 | 描 述 | Mes字段描述 |
| id | VarChar2(100) | 唯一标识 |  |
| idOrder | VarChar2(50) | 订单编号 |  |
| completeNum | Number(8) | 完工数量 |  |
| idTask | VarChar2(50) | 工序编码 |  |
| nameTask | VarChar2(50) | 工序名称 |  |
| planDevice | VarChar2(50) | 计划派工设备 |  |
| planCount | Number(8) | 计划数量 |  |
| realExcuteTime | VarChar2(50) | 工序实际派工时间 |  |
| realFinishTime | VarChar2(50) | 工序实际完工时间 |  |
| realDispatchDevice | VarChar2(50) | 工序实际派工设备 |  |
| completionRate | Float | 工序实际完工量 |  |
| unqualifiedCount | Number(8) | 不合格品数量 |  |
| qualifiedCount | Number(8) | 合格品数量 |  |
| isCompleted | Number(1) | 生产订单是否已完工 |  |
| planCompletionRate | Float | 生产订单计划达成率 |  |

#### 信息样本：

{

"DATA": {

"planDevice": [

{

"cbianhao": "D00000032",

"cname": "智能装配中心"

}

],

"completeNum": 0,

"idOrder": "Yqc-1",

"planCount": 1,

"qualifiedCount": 1,

"idTask": "Yqc-Kjt-ZP01-01-Yqc-1-1001",

"realExcuteTime": "2017-10-30 13:49:03.0",

"realDispatchDevice": [

{

"cbianhao": "D00000032",

"cname": "智能装配中心"

}

],

"unqualifiedCount": 0,

"isCompleted": 0

},

"FC": "orderStateInfo",

"REVICER": "hang2",

"SENDER": "ifms.000001\_wjf",

"UUID": "2624b711-1eef-4d34-8060-8784d47d2cd8"

}

### 工序指令信息（instructInfo）-RG\_RealData

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 适用场景 | MES向框架反馈实时的动作信息，框架对信息进行解析并进行结果转换至3D车间需要的格式。 | | | | |
| 调用周期 | KUKA机器人/AGV状态改变时主动上传 | | | | |
| 信 源 | MES | | 信 宿 | 集成框架 | |
| **字段说明** | | | | | |
| 字段名 | 类型 | 描述 | | | Mes字段描述 |
| idResource | VarChar2(100) | 资源编码 | | |  |
| idTask | VarChar2(100) | 工序编码 | | |  |
| state | VarChar2(100) | 状态(move、putRaw、getRaw、down、up) | | |  |
| good | VarChar2(100) | 货物(货物名、NULL) | | |  |
| startLocation | VarChar2(100) | 起始位置 | | |  |
| endLocation | VarChar2(100) | 目标位置 | | |  |
| valueType | Varchar2(50) | 操作类型(pos、time) | | |  |
| value | VarChar2 (50) | 对应valueType的值。当类型为time时，表示持续时间；当类型为pos时表示，位置信息。 | | |  |

#### 信息样本：

{

"DATA": {

"startLocation": "",

"valueType": "time",

"idResource": "SB00000186",

"startTime": "2017-09-20 09:30:49",

"state": "putRow",

"good": "",

"value": "",

"endLocation": ""

},

"FC": "instructInfo",

"REVICER": "hang2",

"SENDER": "dispatcher.BS00000260",

"UUID": "6f9b18a0-7df8-4d36-9cf5-39b02a2d7994"

}

### 调整设备信息（adjustDeviceInfo）-RG\_AdjustDevice

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 适用场景 | 用于MES中设备出现故障后，向框架及时反馈。框架重新制定排程计划。 | | | | |
| 调用周期 | 故障产生时调用 | | | | |
| 信 源 | MES | | 信 宿 | | 集成框架 |
| **字段说明** | | | | | |
| 字段名 | 类型 | 描述 | | Mes字段描述 | |
| idOrder | VarChar2(100) | 订单编码 | |  | |
| reportTime | VarChar2(50) | 上报时间 | |  | |
| idResource | VarChar2(100) | 资源编码 | |  | |
| enable | boolean | 可用/不可用 | |  | |

#### 信息样本：

{

"DATA": {

"idOrder": "41000903",

"reportTime": "2017-09-21 11:12:45",

"idResource": "SB0000086494",

"enable": "1"

},

"FC": "adjustDeviceInfo",

"REVICER": "he",

"SENDER": "ifms.000001",

"UUID": "b9804108-6860-45d4-a577-8d724acc7c6a"

}

## 发送到MES的接口

### 生产计划（planInfo）：

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 适用场景 | 框架向MES下达生产计划 | | | | |
| 调用周期 | 按需调用 | | | | |
| 信 源 | 集成框架 | | 信 宿 | | MES |
| 注意事项 | 约定直接发送 | | | | |
| **字段说明** | | | | | |
| 字段名 | 类型 | 框架字段描述 | | Mes字段描述 | |
| id | VarChar2(100) | 唯一标识 | |  | |
| idOrder | VarChar2(100) | 订单编码 | | 生产订单编号 | |
| idTask | VarChar2(100) | 工序编码 | |  | |
| nameTask | VahrChar2(100) | 工序描述 | | 工序内容 | |
| idProductOrder | VarChar2(30) | 产品编码 | | 物料编号 | |
| quantityTask | Number(8) | 加工总数量 | | 计划制造数量 | |
| t1Task | VarChar2 (50) | 工序开始时间 | | 计划开始时间 | |
| t2Task | VarChar2 (50) | 工序占用资源的结束时间 | | 计划结束 | |
| nameUser | VarChar2(255) | 当前用户 | | 排程人 | |
| scheduleTime | VarChar2(20) | 排程时间 | | 排程时间 | |

### 订单信息（orderinfo）：

#### 接口定义：

|  |  |  |  |
| --- | --- | --- | --- |
| MES对应表 |  | MES对应模块 |  |
| 联调时间 |  | 对接联调人 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 适用场景 | 框架向MES下达具体订单信息。 | | | | |
| 调用周期 | 按需调用 | | | | |
| 信 源 | 集成框架 | 信 宿 | | MES | |
| 注意事项 | 在3.1下达生产计划信息时一并下发 | | | | |
| **字段说明** | | | | | |
| 字段名 | 类型 | | 描述 | | Mes字段描述 |
| id | VarChar2(100) | | 主键，订单编码 | |  |
| name | VarChar2(255) | | 订单名称 | |  |
| idProduct | VarChar2(100) | | 产品编码，对应PRODUCT表的id | |  |
| quantity | Number(8) | | 订单数量 | |  |
| priority | Number(2) | | 订单优先级，数值越大优先级越高，默认值为1，范围为1～9。 | |  |
| t0 | VarChar2(20) | | 下单时间 格式：“yyyy-mm-dd hh:mm” | |  |
| t1 | VarChar2(20) | | 最早开工时间 格式：“yyyy-mm-dd hh:mm” 如“2007-03-1 08:00” | |  |
| t2 | VarChar2(20) | | 最晚交付时间 格式：“yyyy-mm-dd hh:mm” 如“2007-03-12 08:00” | |  |
| ord | Number(10) | | 订单序号 | |  |
| t1Interaction | VARCHAR2(255) | | 交互最早开工时间 | |  |
| t2Interaction | VARCHAR2(255) | | 交互最晚交付时间 | |  |
| t1Plan | VarChar2(50) | | 计划开工时间 格式：“yyyy-mm-dd hh:mm” 如“2007-03-1 08:00” | |  |
| t2Plan | VarChar2(50) | | 计划交付时间 格式：“yyyy-mm-dd hh:mm” 如“2007-03-12 08:00” | |  |
| advance | Number(4) | | 提前天数 | |  |
| delay | Number(4) | | 拖期天数 | |  |
| nbTask | Number(4) | | 订单工序数 | |  |